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Hydropower Investment Promotion Project (HIPP)

GEORGIAN ELECTRICITY MARKET MODEL 2015 AND ELECTRICITY TRADING MECHANISM (DRAFT)

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1. EXECUTIVE SUMMARY

- The Georgian Ministry of Energy & Natural Resources is committed to facilitating private sector led development of Georgian hydropower resources. This strategy requires that Georgian hydropower plants have transmission paths, trading tools and risk mitigation options so they can sell their electricity into the Turkish and regional electricity markets.
- In order to provide such market access in a manner that is cost effective, in line with EU competitive market principles, and harmonized with the Turkish power market, the MENR is committed to designing and implementing a cross border Electricity Trading Mechanism. Such commitment has recently been reaffirmed.
- The ETM will properly allocate risks amongst market participants and assist in providing dependable cross border transmission capacity rights. This will greatly enhance the enabling environment for hydropower development, in line with MENR's strategy for the further development of the energy sector. The ETM will also enable neighboring counties such as Azerbaijan to transit power through Georgia and into Turkey and beyond.
- The ETM will support the Government of Georgia to create a suitable environment for a competitive market and protect domestic tariff consumers including volnurable costumers. A vision on the impact on regulated electricity consumers during competitive market development is described. This vision also provides and outlines further measures to protect final customers and assist low income households which is in accordance to the Third Package for Electricity & Gas Markets (European Directive 2009/72/EC concerning electricity).
- USAID/HIPP is providing technical support to MENR as it seeks to make the minimum modifications required to the current Georgian power market design to create the ETM. This document includes a Statement of Intent, which sets out the MENR's commitment to developing the ETM; a Vision for the Georgian Electricity Market Model in 2015; a Road Map describing the steps needed to achieve GEMM 2015; the key Milestones on the critical path; an Implementation Plan of Actions for the energy sector entities that will play a role in the new market model; and suggested Level of Effort and discussion of infrastructure changes needed.
- The investment required to design and implement the ETM is significant. As well as an estimated nine thousand days of technical assistance, several million USD of infrastructure investment will be required. Achieving GEMM 2015 and the ETM is a major undertaking. It will require a great deal of effort by all parties currently operating in the electricity sector of Georgia as well as a significant amount of donor and IFI support. All entities involved in the undertaking will need to remain flexible as the design of the GEMM and ETM evolves in response to ongoing changes in the regional power market.This document, as well as describing the GEMM 2015 and ETM, is also intended

to stimulate discussion amongst stakeholders to identify how donors and international financial institutions can support MENR and USAID/HIPP's efforts to design, create and implement the ETM.

- It is recommended that a GEMM 2015/ETM Working Group to facilitate, monitor and coordinate the work required be formed as soon as possible. The first tasks of the Working Group will be to share the GEMM 2015 and hold meetings with all interested or potentially interested donors (in April/May, 2012).
- The terms and acronyms used in this document are defined in Section 2.

2. TERMS AND ACRONYMS

Terms and abbreviations used in this document have the meanings below. For purposes of harmonization with European law, a number of terms that are used in the EU are used in place of present terms used in Georgian legislation.

“Balancing Responsible Party” or “BRP” a generator in a country into which electricity is flowing across the border from another country, that is a party to a BRP Agreement.

“Balancing Responsible Party Agreement” or “BRP Agreement” an agreement containing the terms and conditions pursuant to which a BRP provides electricity balancing services by agreeing to generate and deliver electricity to a Transmission System on short notice in quantities equal to any shortage of or interruption to electricity flowing into the country.

“Bilateral Contract” agreements between and among various Market Participants for the selling and buying of electricity (energy and capacity) and ancillary services.

“CBETA” the Cross-Border Electricity Trading Agreement signed on January 20, 2012 between the MENR and the Ministry of Energy and Natural Resources of the Republic of Turkey.

“Consolidator” an entity established under the GEMM to provide electricity trading services for the unified output of Small HPPs and that holds a Trader License from GNEWRC.

“Distribution Company” the entity with the license for carrying out the functions of the Distribution System Operator and (presently) of Retail Public Supplier.

“Distribution System” a low voltage (110 KV or below) electricity distribution network comprising lines, cables, poles, substations, transformers, control and telecommunications facilities, and associated equipment.

“Distribution System Operator” or “DSO” an operator of a Distribution System.

“Electricity Market” the exchange of demand and supply for the purpose of efficient selling, purchasing and supplying of electricity.

“Electricity Market Law” a new law describing the functioning of the GEMM and the ETM.

“Electricity System” is an interconnected system, made of generators producing electricity, lines, substations and transmission and distribution equipments, for the transmission of electricity for users and the distribution of electricity for users and customers.

“ETM” Electricity Trading Mechanism.

“Eligible Customer” a consumer that has the right to choose from whom to purchase electricity that will be used for its own consumption.

“Energo-Pro” Joint Stock Company Energo-Pro Georgia, that owns several HPPs in Georgia and provides distribution and supply services throughout its service area.

“Energotrans” EnergoTrans Limited Liability Company.

“ENTSO-E” European Network Transmission System Operators for Electricity.

“ESCO” JSC Electricity System Commercial Operator

“Existing Market Operating Rules” Order of the MENR No. 77 dated 30 August, 2006, On Approval of The Electricity (Capacity) Market Operating Rules, as amended and supplemented.

“Exporter” the entity having licenses to export electricity produced in Georgia to the neighboring or/and regional electricity market.

“Flow of Electricity” the amount of power going through the electricity networks of transmission and distribution.

“Flow of Funds” the exchange of monetary values as payments for the performance of contractual obligations among Market Participants.

GEMM 2015 Georgian Electricity Market Model 2015.

“GNEWRC” the Georgian National Electricity & Water Services Regulatory Commission.

“GoG” the Government of Georgia.

“GSE” Georgian State Electrosystem JSE.

“Guarantee of Origin” or “GO” the certificate required to be provided pursuant to EU Directives that provides certainty as the origin of electricity generated and sold into the European Union as Renewable Energy.

“HPP” hydroelectric power plant.

“IFIs” International Financial Institutions.

“Importer” the entity having license to import electricity in Georgia from the neighboring or/ and regional power systems.

“IPP” an independent power producer connected to the electricity transmission system selling power under an unregulated power sales agreement.

“Interconnection Operating Agreement” or “IOA” an Interconnection Operating Agreement to be negotiated and entered into between the entities responsible for the management and operation of their respective country’s Transmissions Systems that contains the terms and conditions applicable to the interconnection of such Transmission Systems and that facilitates commercial trade of electricity between the two countries.

“Interim Period” is the period from [January 1, 2013 to TBD].

“Law on Electricity” the Georgian Law on Electricity and Natural Gas, adopted in 27 June, 1997.

“License” a license issued by the GNEWRC.

“Market Clearing House” or “MCH” an agency or separate corporation of a electricity market power exchange responsible for settling trading accounts, clearing trades, collecting and maintaining margin monies, regulating delivery and reporting trading data

“Market Operator” or “MO” the entity licensed by GNEWRC to manage the balancing market. The MO matches bids from generators (suppliers) and offers from Traders (demanders) and calculates balancing market clearing prices.

“Market Participant” a participant in the GEMM that is not a Market Service Provider.

“Market Operating Rules” a set of rules (comprising secondary legislation) approved by the GNEWRC that establish the procedures for market operation and management and the relations among Market Participants.

“Market Service Provider” an entity that provides services to the GEMM and/or Market Participants engaging in activities for which a License is required.

“MENR” the Georgian Ministry of Energy and Natural Resources.

“New Transmission Line” is, collectively the 500 kV lines from Gardabani and Zestaponi to Akhaltsikhe and the 400 kV line from Akhaltsikhe to Borçka.

“Purchases of Residual Energy” shall mean purchases by ESCO to meet its contractual obligations.

“Qualified Supplier” a supplier of electricity holding a License to supply Eligible Customers.

“Renewable Energy” or “RE” energy produced from renewable sources.

“Regulated Generators” or “RG” regulated generators, being those existing HPPs in Georgia that have seasonal storage (Enguri, Vardnili, Krhami-1, Khrami-2, Dzevrula, Shaori and Zhinvali).

“Regulatory Authorities Law” the Law on Independent National Regulatory Authorities, No. 1666, which came into effect on October 15, 2002, as amended.

“Retail Public Supplier” an entity within the Distribution Company with the license to perform the function of purchasing electricity supply and selling that supply to regulated tariff customers within its defined service territory.

“Sakrusenergo” Sakrusenergo JSC.

“SEE” South Eastern European countries.

“Small HPP” hydro power plant with installed capacity less or equal 13 MW.

“Supplier of Last Resort” or “SOLR” the supplier of electricity that provides electricity to Eligible Customers in emergency situations.

“TEİAŞ” Turkish Electricity Transmission Company.

“Tariff Customer” a consumer of electrical power that purchases electricity from the Retail Public Supplier.

“Trader” a licensed person that buys and sells electricity at wholesale level, except selling to Retail Public Supplier and final customers.

“Transmission Services Companies” a company that owns a Transmission System.

“Transmission System” or “System” a high voltage (above 110 KV) electricity transmission system comprising lines, cables, towers, poles, substations, transformers, control and telecommunications facilities, and associated equipment.

“Transmission System Operator” or “TSO” the operator of a Transmission System.

3. STATEMENT OF INTENT

3.1 OBJECTIVE

To design and implement the minimum modifications (compliant with EU competitive market principles and harmonized with the Turkish power market rules and procedures) to the Georgian power market design to enable Georgian HPPs to sell their electricity output into the Turkish power market (and, eventually, other regional markets), with a trading mechanism that properly allocates risks among market players and provides dependable cross-border transmission capacity rights.

The intent of modifying the USAID's current efforts in Hydropower Investment promotion is to support the widely-known GoG Strategic "10-Point Plan" in the following areas:

a. Creation, maintenance of a favorable investment and business environment;
b. Formation as a regional and logistical hub;
c. Upgrade of infrastructure – multimodal transport and energy hub for the wider region;
d. Georgia's integration into Euro-Atlantic institutions;
e. Legal and regulatory framework improvements.

The support provided under the Hydropower Investment Promotion Project (HIPP) will also address the MENR's priorities for becoming a regional leader in clean energy generation for domestic consumption and export of electricity.

Implementation of the enabling electricity market trading mechanism requires revisions of energy law and regulatory issues (primary and secondary legislation and regulations) and is important to the GoG, the developers of Georgian HPPs and lending institutions because it provides a key element of bankable HPP projects.

3.2 GENERAL ASSUMPTIONS

The following assumptions will direct the power market design and development of the enabling electricity trading mechanism:

1) Retail electricity consumers in Georgia would preferably not be negatively impacted by any change in the power market design;
2) To the extent possible, Georgian HPPs should enjoy the same market privileges, contract, and legal rights as HPPs in eastern Turkey;
3) Availability of financing for the construction of Georgian HPPs will be considerably enhanced.
4) The Turkish power market is still developing and harmonization with the Georgian power market, under ENTSO-E of European Union's Acquis Communautaire will be a continuous process.
5) Clarity, certainty and transparency in the Georgian power market will improve investor confidence.

3.3 PHASED TRANSITION

The process envisaged for implementing an enabling electricity trading mechanism will be a multi-phase process that aims to commence regional spot trading with improvements so that expanded types of trading can be added over time.

Phase 1 – Planning (conceptual future electricity market design including the energy law, revised market design and secondary legislation such as market rules, grid

code, etc., a road map, action plans for each key market supporting entity, joint implementation agreement between GoG and donors/IFIs) (by end of March, 2012).

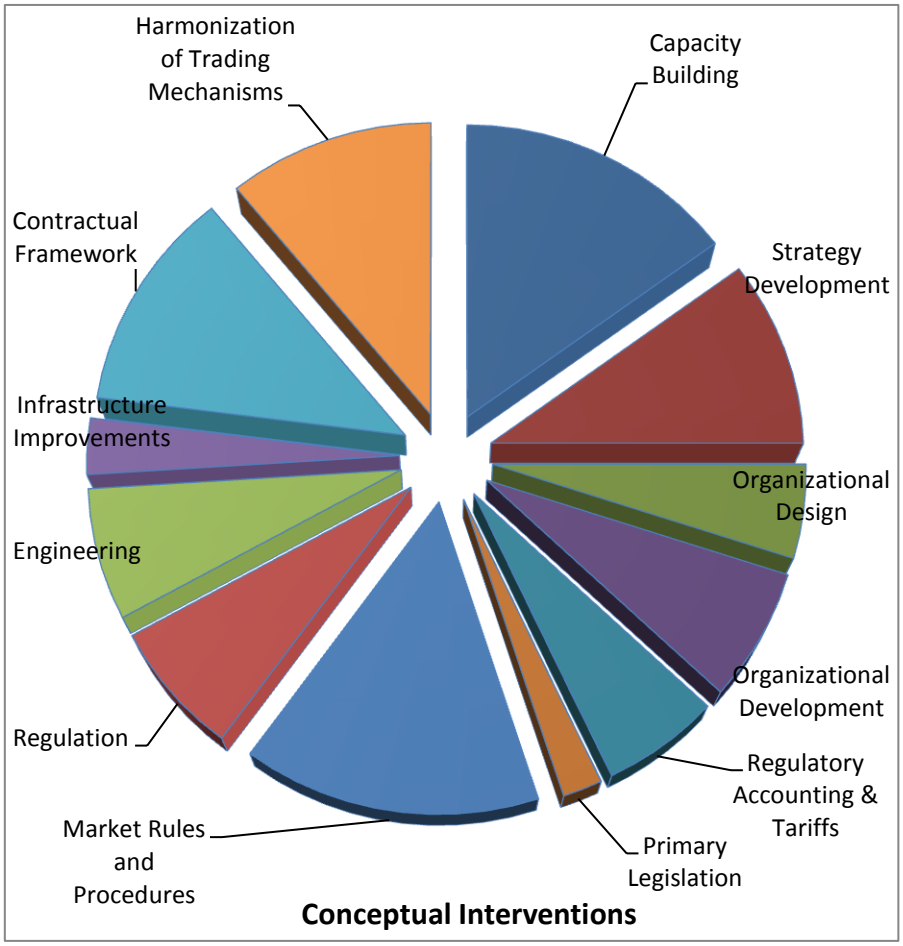
Phase 2 – Implementation of action plans,

Phase 3 – Harmonization with Turkey's power market framework according to ENTSO-E rules,

Phase 4 and beyond – Implementation of next rounds with updated harmonization.

3.4 KEY AREAS OF SUPPORT

Competitive electricity trading in Georgia is mostly limited to direct line sales to end-consumers and export sales utilizing island mode.



Direct line energy sales are dependent on finding large energy end-consumers relatively close to power plant sites; therefore further growth of direct line consumers is quite limited. Island mode sales to Turkey will cease when Turkey joins the ENTSO-E. New Georgian HPPs need a new mechanism that allows for open access on the Georgian electrical transmission networks and an opportunity for competitive trading in regional power markets.

However, to enter the competitive power markets of Turkey and/or Southeast Europe, Georgian HPPs will need transmission paths, trading tools, and risk mitigation options so that they can compete effectively with other power traders in those markets.

Planning and implementing the development of the power market to allow Georgian HPPs to enter regional, competitive power markets will require support (level of effort) in several areas as illustrated in the pie chart above. The chart is illustrative and actual levels of support will be determined after the road map (conceptual plan) and entity action plans have been developed.

3.5 COORDINATED APPROACH

The level of resources and budget to fully support the process of designing and implementing the enabling electricity trading mechanism will require the GoG to look for assistance from various donors/IFIs and others (hereinafter referred to as "key stakeholders") to provide financing and their resources to meet process deadlines. In addition, regular feedback on the process by all key stakeholders will provide guidance to the GoG on the effectiveness of the process for reaching the goal of bankable HPP projects. Facilitation of the process will be through a Working Group composed of MENR representatives and selected key stakeholders. The Working Group will be responsible for providing input in:

- Designing and planning the process to implement the enabling electricity trading mechanism;
- Setting and monitoring deadlines and milestones that ensure the success of the process;
- Identifying areas of support that are covered under existing programs and soliciting support from donors;
- Ensuring effective use of each donor's resources focused on supporting the enabling electricity trading platform and ensuring no overlap of the activities;
- Communicating the results of the Working Group to key stakeholders and receiving feedback from key stakeholders on a regular basis.

If agreed upon by the participating key stakeholders, a joint implementation agreement will be signed by the participating key stakeholders with concurrence from MENR will commit to support of the Working Group and provision of resources for this process. Additional stakeholders may be added to the Working Group upon mutual agreement between MENR and stakeholders.

3.6 SPECIFIC SUPPORT FROM DONORS

The exact nature of key stakeholder support will be defined after the GoG approves the transitional plan for the power market and the conceptual plan for designing and implementing the power market enabling trading mechanism.

USAID plans to support the GoG to provide technical assistance covering many of the related required tasks including:

- Strategy development, conceptual design and road map development and entity action plans;
- Coordination of the Working Group activities;
- Process planning;
- Organizational design and development;
- Market procedures;
- Analysis of the regional markets and trading mechanisms in those markets;

- Contractual framework;
- Development of primary legislative changes;
- Support on negotiations with Turkish entities;
- Harmonization of market trading mechanisms.

Support needed from other participating key stakeholders may include:

- Capacity building in specific topics, including study tours to Turkey and SEE/EU;
- Infrastructure improvements and related training including metering, communications equipment, IT tools, trading models, and database development;
- Support from donors'/IFIs' regional representative offices, especially in Turkey, to develop electricity trading initiatives;
- Review of and feedback on documents developed by Working Group;
- Support for regulator(s) as it develops framework for the energy trading mechanism;
- Subject matter experts to provide targeted technical assistance in multiple areas;
- IFIs review of operating and market rules, legislative, contractual and other documents and provide feedback on their bankability.

4. VISION – GEORGIAN ELECTRICITY MARKET MODEL 2015 AND ELECTRICITY TRADING MECHANISM

4.1 INTRODUCTION

By approving the MENR's proposal to develop the GEMM 2015, the GoG will take a major step forward in the development of Georgia's competitive electricity market. Such approval would include the development of an ETM, an important first step that will enable new Georgian HPPs to sell into the regional competitive electricity markets (including to Turkey pursuant to the CBETA between Georgia and Turkey signed on January 20, 2012.

It is intended that the GEMM be developed in accordance with the principles of EU legislation on competitive electricity markets and movement toward the convergence of regional energy markets. Such convergence is a principal requirement of the Eastern Partnership, the forum for the EU's discussion of strategic partnership agreements with Belarus, Armenia, Azerbaijan, Georgia, Moldova and Ukraine.

During the CBETA negotiations it became clear that there is a need to add new features to Georgia's present electricity sector in order to harmonize the ETM with regional markets, in particular, those of Turkey and Southeast Europe, which in turn are harmonized with EU Directives. Harmonization does not require strict compliance with such Directives. It does, however, require that the laws and regulations applicable in Georgia enable reciprocal electricity trading across borders. As other regional markets continue to develop and refine their operations, Georgia will also need to change the structure and rules governing the GEMM. Harmonization, therefore, will be a continuous process. The GEMM provides a framework for the development of an ETM that is expected to be a more enduring structure than the existing model.

The GEMM will be regularly reviewed and updated to take into account developments in the Georgian and regional electricity sectors and any commitments Georgia may undertake within the framework of regional cooperation.

4.2 RATIONALE FOR AND OBJECTIVES OF GEMM AND ETM

4.2.1 Rationale

The pressing need to develop the GEMM and introduce an ETM has been apparent for some time. Its significance became clear:

- from studies in 2010 and 2011 of the Turkish legal framework that would apply in relation to cross-border flows of electricity from Georgia HPPs and the transport of electricity to Turkish markets and users;
- during negotiations between Georgia and Turkey on the Interconnection Operating Agreement required by the CBETA to be concluded by TEİAŞ and GSE; and
- from feedback received from potential investors in Georgian HPPs concerned about the lack of availability of project financing, resulting principally from the inability of the present system to ensure electricity sales to offtakers in Turkey.

As a result, there is a broader recognition, both inside and outside Georgia, of the need to develop the GEMM and ETM.

4.2.2 Objectives

It is anticipated that the introduction of GEMM and ETM will achieve the following objectives:

- In broad terms, the key objective is to create conditions that will enable HPPs and other electricity producers to sell, with confidence and predictability, output produced in Georgia into the Turkish and other regional electricity markets. It will also ensure that Georgia's electricity market operates according to clear rules that will bring certainty and a level playing field to all future generation projects. The GEMM and ETM will require the promulgation of rules on Transmission System access and use (Grid Code) as well as regulations that impose the minimal essential technical requirements to enable efficient operation of the electricity system.

- Harmonization of the electricity market legislation with that of Turkey and SEE countries to the extent required to enable competitive electricity trading.

- Establishment of a legal framework and commercial conditions necessary for the development of a transparent and non-discriminatory electricity market, including the rules necessary to carry out transactions in the Georgian electricity market, defined access to the Transmission and Distribution Systems and the interconnections with regional electricity markets, all of which will permit market oriented competitively priced import and export trades.

- The monitoring of the electricity market by GNEWRC, as an independent and competent regulatory institution, with authority to approve all the secondary legislation necessary to achieve these purposes.

- The development by GNEWRC of network tariff methodologies that enable accurate and predictable price formation as well as appropriate incentives to the Transmission and Distribution Companies to deliver high quality reliable Transmission System and Distribution System services.

- The enabling of sellers of Georgian electricity produced from renewable sources to sell the electricity in Turkey and the EU, including access to European buyers who are mandated to purchase renewable energy.

- The creation of a structure within which competition can progressively develop, both for wholesale and retail electricity trade.

4.2.3 Steps to be Taken

In order to create the GEMM and ETM and to establish the legal/regulatory and structural framework to achieve the above-described objectives, certain fundamental steps must be taken, including:

- functionally unbundling the current activities of the distribution licensees to create Distribution System Operators that are separate from the business of supply, and creating Retail Public Suppliers that are separate from the business of owning and operating Distribution Systems;

- creation of electricity trading nodes and regional hubs to encourage increased cross boder electricity volumes;
- legally unbundling (when Georgia completes their Road Map for the Energy Community Treaty) Market Participants in accordance with the EU energy acquis;
- gradually changing the current role of ESCO into an entity that will support both regulated and unregulated markets. Under this change, some of ESCO's current functions would be performed by the Market Operator;
- creation, to the extent possible, of electricity market risk mitigation tools similar to those available to the HPPs in eastern Turkey (including financial derivatives, over-the-counter trading, power exchange, and balancing groups);
- implementing the objectives of the GoG in creating an independent Transmission System Operator;
- implementing the objectives of the GoG in creating an independent Market Operator responsible for energy balancing services and settlement, thereby improving the transparency of market operation and function;
- creating a new institution, the Market Clearinghouse, that will ensure a stable and financially viable electricity market;
- requiring transparent financial accounts for the regulated electricity market, including Regulated Generators and TSOs and DSOs;
- ensuring effective independent regulatory oversight of the GEMM and ETM and Market Participants by the GNEWRC;
- implementing practical market monitoring and data reporting processes;
- putting in place Market Operating Rules and related codes and procedures that provide effective safeguards against the possibility of market abuses and unfair trade practices.
- redesigning Georgia's existing electricity markets (broadly comprising the direct or bilateral contracts market; ESCO's "residual" market (energy), ESCO's guaranteed capacity market, and the open access retail sales and competitive export/import market) by creating a bilateral contracts market with service providers that provide balancing and settlement;

4.3 BENEFITS FOR GEORGIA

The GEMM and ETM are designed and intended to advance the GoG's electricity sector policies. The key objective (and a fundamental policy) is to ensure that the potential benefits resulting from Georgia's geographic location and natural resources run directly to electricity consumers and electricity sector investors. Such benefits include the following:

- In the long–term, Georgian domestic consumers will benefit from a secure supply of electrical energy, from quality services at reasonable and ultimately cost-reflective prices and from reduced reliance on imports of expensive and foreign-controlled energy sources;
- Transferring the investment risk to private sector
- Decreasing the energy import dependency (gas import dependence)

- Increased interest and a greater number of participants who will be attracted to a liberalized electricity market;
- Economic benefits for Georgia which derive from maximizing the price of electricity sales of RE to Turkey and the EU;
- Increased harmonization with EU Directives and the terms of the Energy Community Treaty;
- Improved transparency and reliability of sales by Georgian HPPs through the implementation of a bilateral contracts and balancing market (which properly assigns the risk (costs) of non-delivery) for energy transactions;
- Capturing the value of Georgian hydro resources for the benefit of Georgian tariff customers by introducing competitively priced local electricity (which will drive down electricity prices down in the long run);
- Improving the sector efficiency and viability by clarifying rights and obligations, ensuring adequate information flows about market operations and establishing a solid institutional platform for electricity market transactions;
- Improving the possibility for Georgian HPPs to obtain bank financing by establishing an institutional framework they can use to trade into regional electricity markets;
- Electricity trading based on financially sound electricity transactions.

4.4 MARKET DESIGN, STRUCTURE AND OPERATION

Competitive electricity markets are constantly changing in order to meet the needs of the entities participating in the market (Market Participants), the evolving nature of the electricity sector and the need to ensure the market is free from abuse and fraud.

The GEMM will evolve over time. This Vision projects the design and operation of the Georgian electricity market in 2015. It also provides a guide to developing the "Road Map" and action plans for each of the entities involved, showing the steps and actions required by each of them (see Section 5). While the design and the operation of the GEMM and ETM will probably change between now and then, this document provides a viable scenario for the electricity market by the end of 2015.

This section describes GEMM's intended market structure, the design and operation of the market, the Market Participants and Market Service Providers. As the GEMM deals with the wholesale market structure, the precise nature of the retail market is not described here.

Because the ETM focuses on competitively-priced wholesale trading activities, other aspects of the GEMM will not be described in detail in this section. The ETM will provide for the trading of electricity into competitive regional electricity markets and ensure that the financial liabilities resulting from hourly imbalances are properly allocated to the parties causing them. A simple schematic of the proposed new GEMM 2015 structure appears at Appendix E.

4.5 ESSENTIAL CHARACTERISTICS

The GEMM structure envisages the creation of a competitive ETM that will allow Georgian generators to trade in regional day-ahead and balancing markets, as well as make long-term trades by way of power purchase agreements. The following roles will be performed by the following entities:

(i) *Policy, Market Strategy and Design*: the MENR is responsible for setting electricity sector policy (including the design of the GEMM) and for proposing and supporting the implementation of new primary legislation to achieve the GEMM. The MENR is also responsible for determining the future minimum electricity system generating reserve requirements;

(ii) *Market Oversight*: the GNEWRC performs oversight and regulation of the GEMM. The GNEWRC has responsibility to license Market Participants and Market Service Providers, to set tariffs for Market Participants and regulated ancillary services, to develop and adopt electricity market regulations, to monitor the market for abuse, and to recommend changes in the market design to the MENR. The GNEWRC is authorized to enforce compliance and to sanction violators of market regulations and laws

(iii) *Market Service Providers*: these are the entities that perform essential services in the sector, pursuant to Licenses issued by the GNEWRC. Market Service Providers include owners of Transmission Systems and Distribution Systems, operators (that is, the TSOs and DSOs), the Market Operator, a Market Clearing House (and also ESCO during the Interim Period when it will still carry out the functions of the balance responsible party and "single buyer"). Together these entities are responsible for ensuring the dispatch of generation, maintaining electricity flows, operating the balancing market (together with a Balance Responsible Party) and for settling electricity sales and purchases;

(iv) *Market Participants*: comprise electricity generators, RPSs, electricity Traders (including exporters and importers), Eligible Customers which purchase or sell electricity under unregulated bilateral contracts and procure balance service through the balancing market, and a BRP. While RPSs are Market Participants, they sell only at regulated prices.

4.6 POLICY, MARKET STRATEGY AND DESIGN – MENR

The MENR, represented by the Minister, determines and directs overall policy. Acting on behalf of the GoG, MENR is responsible for strategic planning and design of Georgia's electricity sector. It is responsible for, among others, the following matters:

- preparation of general and specific policies for the electricity sector, including policies that seek to achieve the objectives of the GEMM and ETM. Those policies will be reflected in Georgia's electricity sector laws (specifically, the amended Law on Electricity and Natural Gas, the Renewable Energy Law and the new Electricity Market Law);
- preparation of a national electricity strategy for approval by the GoG;
- promotion and facilitation of investment in the electricity sector;
- representing Georgia's energy interests internationally, and consulting, negotiating and cooperating with the governments of other countries.

The existing legal framework needs to be updated to fully describe the GEMM market structure and the government's powers related to it. In the near term, amendments will be made to the Law on Electricity and Natural Gas to put in place the minimum requirements necessary to enable trading to occur when the new Transmission Line to Borçka becomes operational. Later, it is envisioned to enact a new Electricity Market Law that will comprehensively describe GEMM's new market

structure and the powers and duties of the Minister and GNEWRC related to that new market.

Appendix A lists the regulatory instruments, rules and regulations that will be required to be in place by 2015.

4.7 OVERSIGHT AND REGULATION – GNEWRC

The GNEWRC, the independent regulator responsible for Georgia's energy sector established by the GoG in 1997 under the Law on Independent National Regulatory Authorities, No. 1666, which came into effect on October 15, 2002 (Regulatory Authorities Law), is responsible to provide oversight of the GEMM and all Market Participants. Its powers also include the promulgating of regulations and issuing licenses.

Under a typical regulatory regime, GNEWRC's powers and obligations in respect of the implementing competitive trading would include:

- implementing the MENR's electricity sector policies;
- monitoring the structure and operation of the electricity sector;
- setting tariffs, charges and fees in respect of transmission, distribution and supply (pursuant to a detailed methodology set out in law and tariff regulations;
- issuing, renewing and cancelling Licenses to Market Participants;
- monitoring and enforcing license terms;
- approving a Grid Code developed by the TSO(s) in consultation with all sector stakeholders;
- approving the Market Operating Rules (including the Balancing Market Rules) to govern the electricity market developed by the Market Operator in consultation with all sector stakeholders;
- monitoring, reviewing, requiring amendments to and enforcing such Codes and Rules;
- establishing or approving, monitoring, reviewing and requiring amendments to performance standards applicable to Market Participants;
- approving the regulated contracts to be concluded by the Market Service Providers;
- establishing or approving customer services standards;
- establishing or approving and monitoring technical and safety standards;
- settling unresolved complaints between Licensees and customers;
- participating, collaboratively with the Minister, in regional and international matters relating to electricity, particularly as they relate to the transmission and supply of electricity across Georgia's national borders; and
- protecting the environment by participating in the determination and implementation of environmental standards; and
- approving a Distribution Code developed by the DSOs in consultation with all sector stakeholders.

GNEWRC's jurisdiction, powers and obligations respect of the GEMM and ETM must be certain and clearly defined; as well, the manner of their exercise. In exercising its powers, the GNEWRC should have an overriding obligation to act pursuant to objectives established by the Parliament of Georgia. Examples of such objectives are to:

- ensure compliance with all legal requirements related to the manner in which powers are to be exercised and performed;
- act in as consistent a manner as possible;
- impose on Licensees the minimum restrictions and financial burdens that are consistent with the performance of its business, taking into account the need for Licensees to finance and plan their business with a reasonable degree of assurance;
- ensure that different License holders for the same licensed activity are treated equally;
- conduct all regulatory processes in a transparent manner;
- conduct stakeholder consultations prior to making decisions;
- provide written decisions together with the reasons that motivated them; and
- provide aggrieved persons a right to appeal from an adverse regulatory decision.

An independently functioning GNEWRC pursuant to Georgian law will meet the requirements of EU Directive 2003/54/EC (as part of the 2nd Energy Package), as well as the requirements of the Energy Community Treaty. The importance of GNEWRC's role in the development of the matrix of regulations, regulatory instruments and contracts required to implement the GEMM and ETM cannot be over stated. Following the adoption of the GEMM and ETM by the GoG, one of GNEWRC's principal tasks will be to ensure that the new design and its operation is reflected in the Market Operating Rules and other regulatory instruments related to the market's functioning.

4.7.1 Licensing Regime

Existing legislation does not require licenses for all electricity sector activities. Generation, dispatch, transmission and distribution are licensed, but the activities currently performed by ESCO (including balancing, settlements, arranging guaranteed capacity trading, data collection), trading and generation of electricity with installed capacity of less than 13 MW are not licensed activities.

The Law on Electricity and Natural Gas will need to be amended in relation to licensing, in order to require each Market Service Provider and Market Participant (other than Eligible Customers) to obtain a license. Each Market Service Provider – the TSO, DSOs, MO, MCH and BRP – and Market Participants, including Independent Power Projects (IPPs) and Traders, will be licensed by the GNEWRC.

Under the GEMM, a License will be required by or for:

- Generators (except small HPPs);
- Trader's activities;
- TSO activities;
- MO activities;
- DSOs activities;
- the settlement activities of the Market Clearing House. Until the Draft Law on Payment Systems and Payment Services presently before Parliament is passed it is premature to state definitively that the MCH will receive a license from GNEWRC, because the MCH will be subject to a registration procedure at the National Bank. It is clear, however, that the GNEWRC will have regulatory jurisdiction and oversight MCH's payment and settlement procedures.

GNEWRC will issue the Licenses using its current licensing authority (although new terms may need to be established in the new Electricity Market Law), with appropriate conditions, including compliance with the new Market Operating Rules and the new Grid Code. Licensees will be required to submit appropriate information regarding their scope of operations, their operating assets and copies of permits obtained if the License relates to a new generating asset. Licensees will be required to maintain their accounts in accordance with an internationally recognized regulatory accounting system and to provide annual audit reports.

4.7.2 Issues to be Addressed

In developing the above-described regulatory instruments, the GNEWRC should address the following issues:

(a) The relationship between Eligible Customers, the RPSs and the DSOs. This must be specifically addressed in amended Market Operating Rules approved by the GNEWRC, taking into consideration that:

- an Eligible Customer cannot at the same time be a Tariff Customer;
- an Eligible Customer cannot buy electricity from the RGs (except to the extent specifically permitted by the GNEWRC) or from a Retail Public Supplier;
- the Market Operating Rules should precisely define the circumstances and charges for switching by an Eligible Customer back to a Tariff Customer and should be designed to protect Tariff Customers and RPSs from any increased costs or losses caused by such switching.

(b) GNEWRC will develop rules for transmission congestion management when the Transmission System is constrained and cannot carry the total requirements of both Tariff Customers and Eligible Customers. GNEWRC should ensure that the Grid Code and Market Operating Rules include rules for implementing load shedding among Tariff Customers and Eligible Customers when there is capacity shortage, in a way that can be implemented by the TSO. Principles of non-discriminatory open access must guide the development of such rules in order to meet EU open access requirements and to comply with the Energy Community Treaty. In developing these rules, input should be sought from all interested parties.

(c) Auto-producers producing energy for their own electricity requirements in whole or part, and who remain connected to the Transmission System, may have surplus power at certain times. Such auto-producers should be treated as follows:

- when sufficient dispatch capability exists, the Market Operating Rules and Grid Code could provide access to the grid for such excess and the GNEWRC could establish rates for the purchase of such power that create consumer benefits;
- the GNEWRC could also establish appropriate charges for their use of capacity to avoid allowing such a customer from imposing costs on Tariff Customers. If the customer is “off system” most of the time, but wishes to utilize the system as a

backup for its auto production unit in case of maintenance or breakdown, a “stand by” rate could be specified by the Market Operating Rules and approved by the GNEWRC.

(d) In order for the market to achieve its objectives, the GNEWRC, and in many instances the TSO, must have sufficient access to information about operations, costs, and the terms and conditions of contracts among Market Participants. The GNEWRC should therefore, in developing the implementing regulations, ensure that all Market Participants are required to provide (under appropriate protection from disclosure of competitively sensitive information where necessary) all the information required for the successful performance of the GNEWRC’s monitoring functions and the TSO’s dispatch functions, and to do so in a timely, complete, and accurate manner. This information should include, at a minimum, generating unit availability and actual use, Transmission System availability and actual use, and other product and any publicly available price data. To the extent consistent with appropriate confidentiality requirements, the information should be posted on the GNEWRC and TSO websites.

(e) GNEWRC should, as circumstances permit, increase the effectiveness of the usage of Georgia’s power system through the application of a tariff system for Tariff Customers that encourages the use the electricity at night, and discourages its use during peak times, and encourages the Tariff Customers to implement energy efficiency measures.

(f) GNEWRC’s role includes approving regulated agreements negotiated between Market Participants and the minimum terms and conditions to be included in unregulated agreements. Such agreements include the following:

- yearly electricity purchase and sale agreements (between the RGs and RPSs, on the one hand, and between Traders and Eligible Customers, on the other hand) for energy should include price, by hour and season for each relevant generating unit. Agreements should also specify “must run” yearly energy and capacity;
- bilateral agreements between IPPs and Traders on the one hand, and RPSs and Eligible Customers on the other hand, for energy and capacity including price for each hour and season;
- bilateral long-term (one year or more) agreements between ESCO (when it shall be transformed into a Consolidator) and small HPPs;
- one year agreements between the TSO and RGs for ancillary services and for energy needed to cover transmission losses; and
- agreements between generators and RPSs for electricity supply to Tariff Customers.

(g) GNEWRC also will approve model agreements or contracts for a number of contracts among participants, which include:

- bilateral service agreements for distribution services between DSOs and users of Distribution Systems;
- agreements for transmission services between the TSO and users of the Transmission System.

A detailed description of the contracts with Market Service Providers will be required to enter into is provided in Section 3.4 of this Vision.

4.7.3 Balancing Market

Electricity load fluctuates constantly, and any changes in load demand that are not offset by a change in resource schedules (under-scheduling or over-scheduling) require the MO to meet the demand by purchasing electricity (in the event of "under-scheduling") or by compensating generators to reduce generation (in the event of "over-scheduling"). In either case, the expense is recouped from the Market Participants. This additional power (or reduction in power) is purchased in the "balancing" market.

The MO determines the amount of energy needed by comparing the schedules submitted by Market Participants with the anticipated demand. Energy purchased in the balancing market ("balancing energy") covers any shortfalls in demand that the schedules do not meet. This allows owners of undedicated generation to sell power into the balancing market.

Each day the MO determines a "market-clearing price" that it will pay to generators that sell energy in the balancing market. The market-clearing price is the price MO pays for the last megawatt procured for balancing energy and this amount is paid to all generators providing this service.

As indicated, sometimes energy may be over-scheduled, meaning more energy is scheduled to be generated than has been demanded. In this case, the MO will pay generators in the balancing market to reduce generation. Again, MO recoups the cost from Market Participants representing load.

4.7.4 Imbalance Service

The correction, in real time, of energy imbalances in the Transmission System is essential to ensure that supply and demand is continuously matched, or balanced. A generation/load imbalance occurs when there is a difference between: (i) the amount of electrical production that was scheduled day-ahead, or that is actually produced in real time, and (ii) the actual electricity offtake, or withdrawals (loads), in real time. It includes deviations from bilateral contract schedules. It also covers the inadvertent energy flow into the system (from, for example, systems outside Georgia).

Generation/load imbalance service is required when such a difference occurs. In the proposed GEMM, responsibility for balancing the system is placed on the Market Participants. To the extent that a Market Participant fails to address an imbalance through its own purchases, the TSO will be required to make the electrical purchases necessary to ensure that Georgia's power system remains in balance.

In establishing rates for imbalance services provided by generators to the TSO (as part of its provision of ancillary services), the GNEWRC and TSO, working together, shall ensure that the entity creating the imbalance is assessed the full cost of correcting the imbalance (including the cost of energy purchased by the TSO to balance the Transmission System). Such charges should be non-discriminatory and

cost-based. The TSO may also establish, with GNEWRC approval, additional charges by way of penalty for repeated substantial deviations from forecasts. Any revenues collected by the TSO in excess of the revenues required to pay the TSO's ancillary service obligations should be returned to Market Participants at the end of each month on a pro rata basis.

Full performance by all Market Participants of their contract and tariff obligations, including full payment for energy and other services, is vital to the success of the GEMM. GNEWRC, in conjunction with the MO, TSO (and later on, the DSOs) and the Market Participants should also develop rules and model contracts to address the issues of non-payment or partial payment. In addition, GNEWRC should develop rules and procedures to ensure that its regulatory authority over the generators and purchasers and the RPPS can be exercised according to the protocol of settlements and also has the ability to trace the flows of funds between generators and Market Participants.

4.8 MARKET SERVICE PROVIDERS AND THEIR ROLES AND RESPONSIBILITIES

Market Service Providers perform the transmission, market operating and clearing, and distribution services essential to the efficient operation of the GEMM and ETM.

4.8.1 Transmission System Operator

The TSO is obligated to manage the security of the power system in real time and to coordinate the supply of and demand for electricity in a manner that avoids frequency fluctuations and supply interruptions. Under the GEMM as envisaged, this obligation (or function), is separate from its role as owner of the Transmission System. In the near term, the TSO would be a unit (the TSO Unit) inside GSE, the state-owned company that presently both performs the generator dispatch function and owns the Transmission System. In the medium term, the TSO Unit would become the successor of GSE's dispatch function and be licensed as such by GNEWRC.

In maintaining a continuous balance between electricity supply from generators and demand from consumers, the TSO must also ensure the provision and availability of reserves to cover for sudden contingencies and imbalances in the Transmission System. The TSO accomplishes this task by determining the optimal combination of generating stations and reserve providers, instructing generators when and how much electricity to generate, procuring ancillary services to support the power system, and managing any contingent events that cause the balance between supply and demand to be disrupted.

In addition, the TSO also conducts planning to ensure that supply can meet demand and system security can be maintained in the future (short-, medium- and long-term). Under the GEMM, the TSO shall review the information provided by the DSO and the RPSs in order to determine that these Market Participants have secured all the resources needed to supply all load and to cover distribution losses on an annual, monthly, weekly and day-ahead basis. Toward that end, the TSO shall have the authority:

- to require the RPSs and DSOs to make purchases consistent with the amount of supply required to meet the load of Tariff Customers and for distribution losses;
- to require Eligible Customers to provide information demonstrating that they will be able to secure sufficient supply for themselves;

- to require Traders to demonstrate that they will be able to secure sufficient supply for Eligible Customers;
- to request RGs, IPPs, Small HPPs and dispatchable loads to demonstrate that they have the capacity or the load to meet their commitments.

The TSO shall also:

- forecast and purchase ancillary services from RGs and other generators, on an annual, weekly, day ahead and real time basis;
- purchase electricity from RG and other generators required to cover losses in the Transmission System;
- have the right to receive compensation for its services from the Market Participants pursuant to tariffs approved by the GNEWRC.

4.8.2 Forecasting and Operational Forecast

Highly reliable forecasts are necessary in order to maintain the quality, continuity and reliability of electricity supply, to ensure that demand will be satisfied with proper electricity supply and to guide Market Participants. The TSO is entity principally responsible for power system forecasting, including electricity demand, supply and transmission system projection. Depending on the forecast time horizon, different market participants are required to contribute TSO's forecasts. There are two main time groups for forecasting purpose: long-term (one and more years) and short-term (less than one year).

Long-term forecasting: The TSO will be responsible to prepare a (minimum)10-year power system forecast for the country's electricity needs. When preparing its forecasts, the TSO shall consider the forecasts prepared by Market Participants:

- DSOs;
- RPSs;
- Retail Generators, IPPs and Small HPPs;
- MO;
- Traders;
- Consolidator;
- Eligible Customers and other Market Participants; and
  Forecasts prepared by the appropriate government agencies.

The 10-year power system forecast should include information on three main subjects: demand forecasts, generation capacity projections, and transmission system planning.

Demand Forecasts: The demand forecast section should cover forecasted total demand and losses for the country, information related to peak demand during the previous year, seasonal demand analyses, sectoral demand development, etc. The DSO, RPSs and Eligible Customers should submit all information necessary for demand forecasts to the TSO. Additionally, each RPS will be obligated to provide the TSO with monthly demand forecasts (in MWh) as well as weekly minimum and maximum demand forecasts (in MW) for the coming year and for the following years, monthly demand forecasts (in MWh) and monthly minimum and maximum demand forecasts (in MW).

Generation Capacity Projection: The TSO will be obligated to prepare a Generation Capacity Projection. This document, based on demand forecast

prepared by DSOs and RPSs, is finalized by the TSO and submitted to GNEWRC for its approval. It is all based on information provided by the licensed generators. The generation section includes:

- total existing installed capacity in Georgia during the previous year;
- power plants that are licensed but not yet commissioned and generating facilities currently under construction;
- for each year, power plants that will be non-operational for longer than year as well as power plants that will be added to the grid; and
- import-export volumes for the previous year and an estimation for subsequent years.

Transmission System Planning: Based upon demand forecasts and capacity projections, TSO should prepare a minimum 10-year transmission system progress report that identifies new, economically justified connection opportunities, an estimation of the existing transmission system and guidance for investors. The Transmission System planning report shall also evaluate current performance of the System and System planning including improvements and investment plans.

Each year by 30 April, the 10-year Power System forecast progress report should be produced by the TSO. This obligation requires the TSO and other Market Participants to revise and update their forecasts. Any discrepancy between forecasted and actual information should be analyzed and investigated.

The TSO shall be obligated to protect the confidentiality of information provided by Market Participants where disclosure would harm competition.

To ensure the development of sufficient expertise, the TSO shall, in carrying out its forecasting obligations, establish a separate department to carry out the forecasting function.

Short-term Forecasting: The TSO shall perform month ahead, week ahead, day ahead and intraday forecasting. Generators and other Market Participants shall provide proper information of their scheduled productions and expected loads.

Month Ahead: Not later than 10 days before a month defined during a year ahead, the TSO should prepare and publish a Monthly Operation Plan for the operation of the power system based on monthly information provided by Market Participants. The Operation Monthly Plan for the month ahead should include:

- the required electrical energy and how much can be supplied by domestic production;
- imported contractual energy;
- typical weekly and daily load curves during the month for business days, Saturdays, Sundays and holidays and typical load curves;
- a monthly maintenance plan and other programmed services on generators
- a monthly plan for ancillary services;
- an evaluation of the forecasted operations in terms of stability and security of the power system and the measures forecasted for the month to assure security and stability according to the needs.

To assist the TSO in the preparation of the Monthly Operation Plan, the Market Participants (RGs, RPSs, Eligible Customers, Traders, IPPs, and Small HPPs, etc.) should provide TSO with the specified required information, not later than the first 20 days of the month for which the report is being prepared.

Week Ahead: Prior to each week of operation and based on the information provided by the MO (in coordination with the RPSs) RGs, IPPs, Small HPPs and Eligible Customers or Traders should prepare the daily load/generation forecast for the upcoming week, and deliver such updates to the TSO. Prior to each week of operation, the MO should establish the quantity of electricity it will require from RGs pursuant to its contracts with RGs to cover the weekly load.

The TSO will cover the shortages of supply of electricity from RGs, Small HPPs, IPPs, or Traders through ancillary services, or implement load shedding in accordance with set rules.

Day Ahead and Intraday Adjustments: Day ahead generation planning includes the preparation (by the TSO and Market Participants) of generation-consumption plans for the next day, keeping the generation capacity available with sufficient reserve, providing supply security and quality and system integrity.

On a day ahead basis activities relating to matching of demand and supply is carried out in order to ensure equilibration of supply and demand in the system and in order to equilibrate the agreement commitments of the market players and the generation and/or consumption plans before the day.

In order to make demand and supply continuously equal, ancillary services are required. Someone should calculate the parameters and volume and to what extent such ancillary services shall be required and then notify those who are supplying these ancillary servcies.

RPSs may revise their load forecast projections when, based on an update of the forecast load, there are clear differences between the energy forecasted and the amount required. The RPSs shall notify the TSO and the MO of the revision.

In the event updated day ahead forecasts indicate that additional electricity is required over and above that which can be provided from all available sources, including Small HPPs, IPPs and Traders, the TSO may direct in-day adjustments to the DSO or the Eligible Customers in order to institute load shedding procedures to keep the power system balanced. If the updated day ahead forecast indicates that less energy is required than the one forecasted, the TSO may direct in-day adjustments to balance the day ahead load forecast by decreasing the supply purchased from Small HPPs, IPPs or Traders.

Real-Time Balancing: Real-time balancing principles include the activities performed by the TSO to overcome supply and demand imbalances that ocur in real-time. Real time balancing principles cover the activities performed by TSO within the scope of equilibration power market and/or ancillary services in order to remove the supply and demand imbalances arising at real time and matters related to informing TSO regarding technical and commercial parameters by market players contributing to equilibration power market and/or real entities providing ancillary servcies and matters related to the fulfillment of instructions informed by the TSO.

Real time balancing is performed by the folowing:

- the generation plants providing primary frequency control service and secondary frequency control service by increasing or decreasing their output powers automatically;
- balancing units within the scope of equilibration market loading and/or load shedding by the instructions given by the TSO;

- activation of stanby reserves in order to provide sufficient tertiary reserve at real time; and
- application of emergency measures in case of arise of critical and unstable operating conditions.

4.8.3 TSO Typical Procedures

One of the TSO's obligations is to dispatch all the units owned by RGs and IPPs required to cover the load, as well as Eligible Customer loads dispatchable, observing all the rules and procedures as provided in the Grid Code for:

- operating day;
- day following operating day;
- fifth day following the operating day; and
- day ahead and in day adjustments.

The TSO should establish, with the GNEWRC approval, operating procedures that establish "gate closure" for physical nominations and other rules required for the TSO to perform its dispatch and balancing functions.

The TSO should compare the sum of the load forecasts received from the market participants with its own forecasts and determine what additional steps (e.g. purchases) may be necessary to balance the system.

GNEWRC is responsible to ensure that the Market Operating Rules describe in detail all the operations that TSO should undertake for dispatching and other activities involved in the power system.

4.8.4 Transmission Services Companies

The Transmission Services Companies own the assets that comprise the Georgian Transmission System. They are responsible for the physical operation of the Transmission System, that is, maintaining and expanding the system as necessary to meet forecasts through long-term development and investment.

Transmission Services Companies have the following obligations:

- to connect generating plant to the Transmission System;
- to connect DSOs to the Transmission System; and
- to decide on matters of new investment and rehabilitation required to support forecast loads on the Transmission System.

Currently, four companies perform transmission services in Georgia: GSE, SakRusEnergo and EnergoTrans.

- GSE is a state-owned company that owns 110 kV, 220 kV, and 330 kV transmission lines and substations, and the 500 kV substations. GSE operates a 500 kV interconnection with Russia's Southern Region. A 110 kV interconnection to Russia in the Kazbegi region is not energized. GSE is rehabilitating (along with SakRusEnergo) a 500 kV interconnection with Azerenerji. GSE has a 330 kV interconnection with Azerenerji. GSE also has three connections (not energized, except in island mode) with ArmTrans

(Armenia), one 220 KV interconnection out of Gardabani Substation and two 110 kV interconnections;

- a subsidiary of GSE, EnergoTrans, is completing two new 500 kV transmission lines from Zestaponi to Akhaltsikhe and from Gardabani to Akhaltsikhe and a new back-to-back 500kV/400kV HVDC substation in Akhaltsikhe for a new 400 kV interconnection with Turkey's Transmission System;
- SakRusEnergo is a joint stock (Russian and Georgian) company that owns the existing 500 kV lines;
- Energo-Pro owns 110 kV lines and is designing a new 220 kV interconnection to the Turkish electricity transmision network with a back-to-back substation.

4.8.5 Market Operator and Balancing Market

Under the GEMM, the MO's principal function is to operate the balancing market and ensure that energy purchase and sales quantities contracted for under bilateral contracts are balanced, by ensuring that "balance energy" is available. To do so, the MO is responsible to develop a balancing mechanism that matches 'offers' and 'bids.'

In order to perform these tasks, the MO must ensure that it has access at all times to the necessary information related to available generation, electricity flows and the bilateral contracts between Market Participants. The MO will work closely with the TSO and GNEWRC that all required information is forthcoming. In the future, the MO it might be possible for the MO to carry out not only the balancing function, but also serve as a power exchange.

The MO's responsibilities include:

- operating the hourly balancing market for the Georgian competitive electricity market;
- closely coordinating its operation with the TSO and GNEWRC;
- calculating settlements for electricity and capacity Market Participants in accordance with the agreed (regulated) procedures, and providing this information to the Market Clearing House (MCH);
- suggesting modifications to the rules governing the electricity market; and
- training new entrants to the balancing market.

Some of the MO's functions under the GEMM are currently performed by ESCO on an on an interim basis. In the longer term, ESCO will establish an MO Unit which will be legally separated from ESCO and become the successor entity to ESCO and be licensed by GNEWRC as the MO.

4.8.6 Market Clearing House (MCH)

Wholesale transactions (bids and offers) in electricity (both capacity and energy) are typically cleared and settled by a special-purpose independent entity with exclusive obligations to carry out this function. Market Operators do not clear trades; they do however require knowledge of the trade in order to maintain generation and load balance.

Under the GEMM, a new entity will be created – the Market Clearing House (MCH). It is obligated to determine the margins that each electricity buyer and seller trading

in the market will be required to provide in order to be permitted to trade in the competitive electricity market. The role of the MCH is to ensure that all trades will be cleared. It also will give market participants the following benefits:

- guaranteed settlement & delivery of the contracts;
- effective book keeping, reporting and risk management control; and,
- handling of physical deliveries.

The MCH might be an existing bank or commodities house, or it could be newly established special purpose entity. In any case, however, it will be the product of a competitive tendering process.

4.8.7 Distribution System Operators (DSOs)

Currently in Georgia, the Distribution Companies own, maintain and operate the electricity Distribution Systems. They also provide retail electricity supply to Tariff Customers. In order to introduce a competitive electricity market and to ensure that revenue from the monopoly distribution (or wires) business is not used to subsidize electricity generation and sales, it is necessary to separate the retail electricity supply function from the license holder's distribution function.

The GEMM envisages that the existing Distribution Licensees' two separate functions will be performed initially by two separate units within the DSO, under which the functions would be split into:

- maintenance and operation of Distribution Systems, to be performed by the existing Distribution Companies, to be called Distribution System Operators (DSOs); and
- retail electricity supply, to be performed by a unit called the Retail Public Supplier. These units would for the time being, be owned by the DSOs but operated in a functionally separate manner. Ultimately, the RPSs would be legally separated from what is today the Distribution Licensee.

The DSOs' obligations are to:

- provide, on a non-discriminatory basis, connection and metering services to electricity customers (that is, Tariff Customers and Eligible Customers) that are connected to a Distribution System;
- ensure the delivery of electricity received by the Distribution System from the Transmission System;
- provide wheeling services to Eligible Customers, auto-generators and generators located on their Distribution System;
- meet the standards of service imposed under their licenses and the Distribution Code;
- purchase electricity to cover losses in the Distribution System. A DSO may purchase such energy from any Market Participant at prevailing market rates.

Electricity tariffs and terms and conditions of distribution service provided by DSOs shall be regulated by the GNEWRC.

DSOs shall be required to reduce technical and non-technical losses in the Distribution System pursuant to conditions established by the GNEWRC. The GNEWRC may establish a tariff for DSOs that provides incentives for the reduction of such losses.

4.9 MARKET PARTICIPANTS – ROLES AND RESPONSIBILITIES

The term “Market Participant” is used to describe each of the numerous entities operating in the GEMM and ETM that are not licensed service providers.

GEMM Market Participants are:

- electricity generators (including RGs, IPPs, Small HPPs);
- RPSs that purchase electricity;
- Traders (including export and import activities);
- a Consolidator (provides electricity marketing and trading services to small- and medium-sized generators);
- Eligible Customers (customers that have the right to choose their supplier); and
- Tariff Customers (purchasers of electricity from a RPS at a regulated price).

The roles and responsibilities of the Market Participants are described in this Section.

4.9.1 Regulated Generators (RGs)

Enguri, Vardnili Cascade, Krhami-1, Khrami-2, Dzevrula, Shaori and Zhinvali Power Plants

Under the current system, RGs are HPPs with seasonal storage. Their prices are regulated by GNEWRC. Two of them, Enguri and Vardnili have fixed regulated tariffs. The other five operate under what are called “partially deregulated” tariffs. In practice, however, their ceiling price is the effective price at which they sell their power.

Under the GEMM, RGs will include the seven currently regulated power plants described above. Generally, the role of the RG is to provide low cost base load electricity supply to Georgia’s power system. The GEMM envisages that all of the net gains available from the significant hydro resources of the country represented by these plants will be preserved for Tariff Customers.

Under the GEMM, the RGs will:

- sell electricity to the RPSs (the RPS Units in the DSOs) according to their requests at prices as approved by the GNEWRC. These sales shall remain regulated and l be made pursuant to annual contracts or under contracts having different terms subject to approval by the GNEWRC;
- sell to the TSO ancillary services and electricity needed to cover technical losses in the Transmission System;
- sell excess electricity and also purchase electricity on either the national market or the export market under the ETM, pursuant to rules and procedures of sale approved by the GNEWRC, and pursuant to regional electricity trading agreements such as the CBETA; and
- exchange electricity in the export market according to rules and regulations of exchange, approved by the GNEWRC or as agreed by the competent authorities under the Energy Treaty or other regional agreements.

GNEWRC will monitor the process of exchanging and selling electricity to ensure that RG sales are transparent and that any sales in the competitive market are not detrimental to the interests of tariff customers.

The supply agreements between the RGs and the RPSs will ensure that the benefits of the RG's hydropower capacity are preserved for Tariff Customers. The RGs may, however, subject to rules and procedures approved by the GNEWRC, sell any of their capacity above the amounts contracted to the RPs at unregulated prices, under the following conditions:

- an RG shall have obtained the appropriate license from the GNEWRC to sell electricity as a Trader; and
- the terms of such sales, as established by the GNEWRC, shall not reduce overall benefits for Tariff Customers and will not impair the RGs obligations under their contracts with the RPSs.

The RGs will bear the commercial and credit risks associated with the above-described sales. The net gain (if any) from sales or "swaps" of energy made by an RG should be reflected in benefits for Tariff Customers. The GNEWRC may however, consider and adopt if appropriate, incentive mechanisms, including allowing an RG to retain a portion of the net profits gained from unregulated sales.

4.9.2 Small Hydropower Producers (Small HPPs)

Small HPPs are hydropower generators that are directly connected either to a Distribution System or an Eligible Customer or to the Transmission System and their installed capacity is less than 13 MW. Small HPPs can sell their output:

- to Traders at freely negotiated terms;
- to RPSs at prices established by the GNEWRC; or
- to the TSO and DSOs to cover their System losses under contracts approved by the GNEWRC.

GNEWRC shall establish a unified and simplified tariff calculation methodology for sales from Small HPPs under the regulated market.

4.9.3 Independent Power Producers (IPPs)

Currently, the market is comprised of various types of participants. There are RGs. There are Small HPPs that are constructed to generate from renewables. And there are other power plants (thermal and HPPs) that are entitled to sell electricity both at regulated and unregulated prices. New proposed power projects that do not satisfy RG requirements and are above 13 MW will fall into the IPP category. They are free to choose into which market they would like to sell. IPPs are licensed by GNEWRC. They may sell electricity to Traders, RPSs or to Eligible Customers. IPPs may enter into long-term bilateral agreements or short-term transactions in the balancing market or both.

IPPs will be required to demonstrate to the TSO that they have sufficient capacity and energy to satisfy their customer's requirements. IPPs require only a Generation License when selling to Traders, RPSs and Eligible Customers, and not a trading License, provided that they are not buying power. If they buy electricity, as well as sell it, they will require a Trader's License.

4.9.4 Traders

A Trader is licensed by GNEWRC to buy and sell electricity, except for sales to Tariff Customers. Traders may be domestic or foreign entities.

Traders will be able to buy and sell electricity on domestic and foreign markets. Domestically, they may buy electricity from the RGs (surpluses), IPPs and Small HPPs for the purpose of onward sales to Eligible Customers or the RPSs, TSO or to DSOs to cover distribution losses.

Under the GEMM, IPPs can also be Traders and engage in wholesale transactions, provided that they obtain a Trading License. Traders may enter into long-term bilateral agreements or short-term transactions in the balancing market.

The GNEWRC shall ensure that Licenses and licensing procedures for Traders are transparent and non-discriminatory, and do not create an undue burden on the entry of Traders into the GEMM (for foreign entities, this is subject to a finding by GNEWRC that reciprocal arrangements are available for Georgian entities seeking to trade in markets of such foreign entities). License terms for Traders will include requirements to provide information (regarding their activities and technical and financial information) to GNEWRC, and to comply with all applicable regulations and the Market Operating Rules and the Grid Code.

4.9.5 Consolidator for Small HPPs

Small and medium sized Renewable Energy projects by themselves have little human or economic capability enter the competitive electricity market. To support the development of these projects on commercial terms, it would be helpful to consolidate their output for the purposes of marketing and sales. Under the GEMM, an entity known as the Consolidator will be established to provide these electricity trading services for such projects, and balancing assistance. A Consolidator will require a Trader License from GNEWRC in order to conduct its activities.

A Consolidator would:

- market to and arrange sales of the output of small and medium sized projects to the RGs, Traders and Eligible Consumers; and
- also serve as a balancing group for its members, which would reduce the overall payments otherwise payable for imbalance service.

With respect to contractual relationships, agreements will be required between the small and medium-sized generators and the Consolidator; and between the Consolidator and the Market Operator. The Consolidator will prepare contract templates for the approval of the GNEWRC.

The Consolidator can freely trade with Eligible Customers, other Traders, DSOs, TSO. The consolidator may sell to RPSs at prices regulated by GNEWRC.

4.9.6 Retail Public Suppliers (RPSs)

RPSs will sell electricity only to tariff customers under tariffs and pursuant to contracts that have been approved by the GNEWRC.

Under the GEMM, RPS will purchase electricity from the RGs, IPPs and traders at rates that have been approved by GNEWRC.

RPSs will be obligated provide to the TSO and MO the annual, weekly and day ahead schedules of its expected load. This will enable the MO and TSO to develop their own schedules.

RPSs shall be responsible for reducing non-collections from tariff customers under conditions determined by GNEWRC. The GNEWRC may establish a tariff for RPSs that provides incentives for the reduction of such non-collections.

4.9.7 Eligible Customers

In Georgia, there are two categories of retail customers. The first category is called "Direct Customers" (the Georgian term for Eligible Customers). Currently in Georgia there are seven Direct Customers. Eligible Customers are customers that are entitled to purchase electricity from any source. Pursuant to the Basic Directions of State Policy of the Energy Sector of Georgia, all consumers will be Eligible Customers by 2017.

Eligible Customers shall provide information to the TSO regarding their expected load.

4.9.8 Tariff Customers

The second category of retail customers in Georgia is called "Tariff Customers." Tariff Customers are electricity consumers that are connected to a Distribution System and purchase electricity from their RPSs at rates regulated by the GNEWRC.

Regulated tariffs will continue to be available to household and small commercial enterprises, even after complete market opening because some Eligible Customers will want to switch back to being Tariff Customers served under regulated tariffs and because there will for the foreseeable future be consumers that elect not to choose a supplier. These will need to be served by the RPSs. If the RPSs are phased out, a default supplier, called the Supplier of Last Resort, will need to be available to supply tariff customers at regulated tariffs. The GNEWRC will select a SOLR using a transparent selection process.

The GNEWRC shall issue rules to determine the conditions under which a customer may return to the category of tariff customer after having chosen to become an Eligible Customer by 2017.

4.10 PUBLIC SERVICE OBLIGATIONS

Certain costs in the electricity sector arise from activities that are conducted and provided for the public good, rather than for the benefit of a specific party. These costs often relate to, for example, environmental protection and improvement, power system security and reliability ("reserve capacity" or "capacity requirements"), "provider of last resort" services, the protection of vulnerable consumers and the obligation to purchase an allocated share of Renewable Energy resources. Under the GEMM, such costs will be imposed on Tariff Customers and Eligible Customers through purchases made by RPSs and Traders. The Ministry establishes the level of the obligations to be paid for in establishing energy policy consistent with its international obligations and best international practices. In this respect, Georgia might want to follow ENTSO-E requirements with regard to reliability standards, or the EU requirements with regard to renewable purchase obligations.

4.11 GUARANTEE OF ORIGIN CERTIFICATES

The Member States of the European Union have created a system in which electricity production based on Renewable Energy sources can be verified reliably, by means of Renewable Energy certificates, or Guarantee of Origin certificates

which are established in conjunction with certain purchase obligations. A GO certificate represents the generation of one-megawatt hour of electricity, and proves that power is generated from renewable sources. It is sold separately from the produced power, and allows the buyer to claim after redemption that it has purchased renewable energy. The certificates can be traded throughout the EU.

Instituting a GO program in Georgia will bring additional benefits. It will enable the sale of renewable energy resources to European Union countries that fail to develop sufficient quantities of renewable energy domestically.

Controlling the information and the accuracy of the GO is of critical importance. It is typically a regulatory function. Under the GEMM, the GNEWRC will therefore manage the Guarantee of Origin program, by recording GO certificates for each kWh produced by a Small HPP or medium-sized hydropower project. It will be the responsibility of the RPSs and Eligible Customers to purchase a mandated specified percentage of GO Certificates during each year (the purchase obligation).

4.12 RELATIONS AMONG MARKET PARTICIPANTS

Under the GEMM, the relationships among, and the role of Market Participants in the physical operation of the market model will be established in bilateral contracts between the various participants consistent with the descriptions below:

A) Regulated market

1) Between RGs and RPSs to make the prices charged by RGs to RPSs transparent;
2) Between TSO and other Market Participants for transmission-related services, including ancillary services;
3) Between DSO and other Market Participants for distribution-related services;
4) Between Small HPPs or IPPs and RPSs or Eligible Customers;
5) Between RPSs and its Tariff Customers;
6) Between RGs and Traders, including import contracts for exchanges of power, which are subject to GNEWRC approval or procurement rules;
7) Between the TSO and RGs, Small HPPs, IPPs or Traders, for transmission losses and ancillary services;
8) Between the DSOs and RGs, Small HPPs, IPPs or Traders for distribution losses.

GNEWRC may adopt standard agreements or procurement rules that must be executed for regulated services.

B) Non-regulated market

1) BetweenTraders and Eligible Customers;
2) Between and among Small HPPs, IPPs and Traders;
3) Between the TSO and IPPs, Small HPPs, RG's and Traders for transmission losses and ancillary services;
4) The MO (successor of ESCO) should manage the balancing market in order to handle system imbalances, allocating responsibilities between IPPs, Small HPPs, Traders and offtakers; and
5) Between DSOs and Traders, IPPs and Small HPPs and RGs for energy required to cover losses in the distribution system.

All of the above agreements in the non-regulated market are subject to approval and monitoring by the GNEWRC to ensure the proper functioning of the market and that the market participants do not exercise their market power or carry out other unfair practices. The various contractual relationships of the TSO, RGs, DSOs, RPSs, Tariff Customers, Eligible Customers, Small HPPs, IPPs, and Traders are illustrated in Appendix B, the proposed flow of funds is presented in Appendix C, and electricity flows are presented in Appendix D.

4.13 ELIGIBLE CUSTOMERS AND TARIFF POLICY

Retail consumers currently include “Direct Customers” (the Georgia term for Eligible Customers), which can purchase electricity from “Qualified Enterprises”, and Tariff Customers, which buy bundled distribution and electricity supply services under regulated tariffs from Distribution Companies. Georgia has established a gradual schedule for market opening in its state policy on energy. The annual consumption threshold for eligibility to contract directly for the purchase of power currently extends to 2017 for full market opening.

Regulated tariffs will continue to be available to household and small commercial enterprises, even after complete market opening because some Eligible Customers will want to switch back to being Tariff Customers served under regulated tariffs and because there will be for the foreseeable future consumers that elect not to choose a supplier. These will need to be served by the RPSs. If the RPSs are phased out, a default supplier, (ie.the SOLR), will need to be available to supply tariff customers at regulated tariffs. The GNEWRC will select a SOLR using a transparent selection process.

4.14 THIRD PARTY ACCESS AND TARIFFS

Third party access is guaranteed under the Law on Electricity and Natural Gas. GNEWRC establishes the tariffs for wheeling services by the DSOs. Currently, two of the three Distribution Companies have wheeling tariffs approved by GNEWRC. Kakheti will also have to obtain wheeling tariffs in the future.

When the market is fully opened in 2017 full third party access wil be mandated.

4.15 CONTRACTS REQUIRED AND FUNDS FLOW

Under the current Georgian Electricity Market Model, price regulation (and other terms and conditions) is extensive. This regulation reflects the current near-monopoly status of GSE, Telasi, Energo-Pro, & Khaheti Distribution Companies, and of ESCO.

Under GEMM, all contracts and tariffs between the various Market Participants will remain regulated except for:

- contracts between Georgian HPPs and other producers on one hand, and electricity traders in Turkey, on the other;
- contracts between electricity producers and Traders, on the one hand, and Eligible Customers on the other;
- contracts between foreign traders and domestic traders; and
- purchases and sales on the balancing market.

4.16 SERVICE PROVIDER CONTRACTS

Under the GEMM, service contracts between Market Participants will continue to be regulated. They include:

- Wheeling contracts;
- TSO — Foreign TSO contracts;
- TSO — MO contracts;
- MO — Foreign MO contracts;
- TSO — Generator transmission losses contracts;
- TSO — Generator ancillary services contracts;
- TSO — Traders;
- DSO — Generator distribution losses contracts;
- DSO — RPS contracts.

4.16.1 Contracts for Transport

Currently, the Distribution Companies and Direct Customers purchasing power from producers and Qualified Enterprises must conclude:

- A transmission and dispatch contract with GSE;
- A transmission contract with Sakrusenergy; and
- A wheeling contract with the Distribution Company (if the Direct Customer is located on a Distribution System).

The tariff paid by the transmission customers is regulated by GNEWRC and includes the cost of ancillary services.

As mentioned, under the GEMM, the GSE Dispatch Center will be legally separated and ultimately become the independent TSO that will be licensed by GNEWRC. Generators and energy Traders exporting power to Turkey will be required to conclude a dispatch agreement with the TSO and transmission agreements with the remaining Transmission System owners (GSE, Sakrusenergo and Energotrans), which will include the cost of ancillary services. Dispatch on the Sakrusenergo line to Turkey and the new line to be built by Energo-pro to Turkey will be performed by the TSO. RPSs and Eligible Customers will also be required to conclude a contract with the TSO and transmission agreements with the Transmission Companies. An Eligible Customer located on a Distribution System will be required to conclude a distribution agreement with its DSO. Tariff Customers will implicitly pay for transportation through their bundled regulated tariff for supply from their regulated RPS.

4.16.2 Market Operation Agreements

Under the GEMM, the Balance Responsible Party to any power transaction registered with the TSO will be required to conclude an agreement with the MO and the MCH under which it be required to post security that is sufficient to cover any imbalances. Imbalances will be settled through the Balancing Market, operated by the MO. Under the GEMM, a generator or a Trader may qualify to be a BRP. The MO, in turn, will conclude an agreement with the MCH and provide the settlement

services during the time that such markets operate. During the transition period, ESCO will act as the MO and buy and sell imbalance power until a functioning balancing market is established. Other agreements will govern the sharing of information between the TSO and the MO and between the MO and the MCH. The TSO will be required to provide the MO with week-ahead, day-ahead and hourly forecasting, while the MO will be required to provide the MCH with data on actual deliveries for settlement purposes.

4.16.3 Ancillary Services and Losses

Ancillary services include various types of energy and capacity products to meet their reliability requirements. Ancillary services resemble insurance that market participants must acquire to do business. The cost of this "insurance" is paid by all Market Participants and is based on their share of the overall load.

Currently, the MENR determines the level of Guaranteed Capacity provided from the three thermal power companies (Georgian International Energy Corporation, LLC, Georgian Power, LLC and Mtkvari Energetika, LLC). The tariff for the Guaranteed Capacity payments is paid by Exporters, Direct Customers and the Distribution Companies. The Transmission Companies and Distribution Companies buy power to cover system losses from generators at regulated tariffs.

Under the GEMM, the TSO will be able to buy ancillary services from RGs, Traders and IPPs and Small HPPs at market-based prices.

The TSO is required to purchase, by contract, the ancillary services required for the Transmission system. RGs and other generation plants will offer to sell the TSO ancillary services under a contract, the terms of which must be negotiated between the TSO and those plants and approved by the GNEWRC.

Ancillary services will include energy balancing. The TSO may purchase additional ancillary services from an RG (where not already provided by contract) or from Small HPPs, IPPs and Traders, as available.

RGs will first offer energy corresponding to the capacity remaining, after taking the contract for ancillary services and for the energy required by the TSO for technical losses in the Transmission System into account, to the MO under contracts at prices and terms approved by the GNEWRC.

4.17 POWER PURCHASE AGREEMENTS

The GoG encourages private investment in generation plant to meet Georgia's energy requirements and to guarantee a high security of supply through diversification of generating resources.

GNEWRC will have the authority to limit the extent of long-term bilateral agreements between generators, IPPs and electricity purchasers, in order to avoid any "blocking" effect in the development of the market as a result of these agreements. It is hoped that the policy of requiring IPPs to sell output into the Georgian market only during winter, with the rest of their output being able to be freely sold at market prices outside Georgia, will help to maximize private investment in the country.

Long-term PPAs entered into by hydropower generation plant should be hedged as much as possible with respect to risks associated with fluctuations in currency exchange rates.

4.18 BALANCE RESPONSIBLE PARTY AGREEMENTS

To trade electricity across an international border, the selling party must seek out a party (a generating company) in the country where the energy is received to be the Balancing Responsible Party. The BRP must be able to generate electricity in a short period, normally from spinning reserve. The Georgian HPPs will sign one or more BRP agreements that will ensure that any interruption of the flow into the receiving country will be covered internally in the receiving country. The BRP agreements must be disclosed to and filed with the TSO of the receiving country.

4.19 FLOW OF FUNDS

The flow of Funds in the Market Model is depicted in Appendix D.

4.19.1 TSO

1. Payables:

The TSO will pay RGs, IPPs, Traders and Small HPPs for ancillary services and for energy needed to cover losses in the transmission system purchased by TSO.

2. Receivables:

Eligible Customers, RGs, RPSs, IPPs, Small HPPs, and DSOs (for the energy purchased to cover losses) will pay the TSO for transmission charges (to the extent applicable) calculated in accordance with the tariff included in the Transmission Services Agreement approved by the GNEWRC;

- Payments for the interconnection capacity allocation charges; and
- Services for transit of electricity through the Black Sea Transmission Lines.

3. Receivables/Payables:

Market Participants settle imbalances according to their physical imbalances (subject to an agreed dead-band).

4.19.2 Regulated Generators

1. Payables:

RGs will pay (to the extent applicable, if any) the TSO for transmission service provided under tariffs approved by GNEWRC.

RGs will pay IPPs, Small HPPs, and Traders for the purchase of economy energy (i.e., energy that may be available at certain times of day or year that can be purchased more cheaply than the RGs can generate and that can economically be used for station service or to meet its contractual obligations).

2. Receivables:

MO will pay RGs for the electricity at regulated prices for as long as MO is doing the balancing, during the interim period until a Balancing Market is created.

TSO will pay RGs for ancillary services and energy purchased to cover losses. They will also pay or receive amounts for their participation in the regulated balancing market.

DSOs, counterparties to exports, and Traders will pay the RGs for electricity to the extent such sales are allowed.

The TSO is responsible for purchases from RGs, IPPs, and Small HPPs to cover losses in the Transmission System.

3. Receivables/Payables:

RGs imbalance settlement payments are made according to their physical imbalances (subject to an agreed dead-band).

4.19.3 Market Operator

1. Payables:

The MO will pay RGs Small HPPs, IPPs, and Traders, for all electricity purchased for balancing purposes.

MO will pay any applicable TSO charges for transmission service, including the cost of ancillary services, under tariffs approved by the GNEWRC.

2. Receivables:

RPSs will pay MO for electricity delivered to them under rates approved by the GNEWRC.

4.19.4 Distribution System Operators

1. Payables:

DSOs will pay IPPs, Small HPPs, Traders and RGs (at market rates) for energy required to cover Distribution System losses.

DSOs shall pay the TSO applicable charges for transmission service, including ancillary services under tariffs approved by GNEWRC, with respect to energy purchased by DSOs to cover distribution system losses.

2. Receivables:

Users (i.e. the Tariff Customers and the Eligible Customers connected to a Distribution System) of the distribution system will pay DSOs for distribution network services under tariffs approved by the GNEWRC.

3. Receivables/Payables:

DSOs will make imbalance settlement payments according to their physical imbalances (subject to an agreed dead-ban).

4.19.5 Retail Public Supplier

1. Payables:

RPSs will pay the RGs for electricity supplied to RPSs according to the tariffs approved by the GNEWRC.

RPSs will pay any applicable TSO charges for transmission service, including the cost of ancillary services, under tariffs approved by the GNEWRC.

RPSs will pay DSOs for the distribution services under rates approved by the GNEWRC.

2. Receivables:

Tariff Customers will pay RPSs for electricity supply under tariffs approved by GNEWRC. RPSs will make filings related to electricity supply that will result in each Tariff Customer within the same class of customers across the country paying the same uniform tariff rate.

3. Receivables/Payables:

RPSs will make imbalance settlement payments according to their physical imbalances (subject to an agreed dead-band).

4.20 SETTLEMENT PROCESS

Details of the Settlements Process, including the imbalance settlement administered by the TSO, will be specified in the Settlements Protocol (part of the Market Operating Rules) approved by the GNEWRC. Settlement funds must be used according to the destinations in order to avoid diversion. The process must be designed to function in a transparent manner, accommodate the use of bilateral contracts and facilitate improved collection rates.

The GNEWRC has full authority to ensure that the activities of the parties are carried out within these rules and protocols and that all financial transactions are fully transparent. The GEMM reflects attempts to minimize the risk of market manipulation, thereby providing sellers into the market with increased assurance of efficient, proper market functioning. The contractual relations between and among all the Market Participants must well defined.

The RPSs and purchasers shall compensate the TSO only for functions and services performed by the TSO, and pay directly to the sellers (e.g. RGs, IPPs, Qualified Suppliers, etc.) the costs of electricity consistent with physical statements provided to by the MO and TSO.

In order to increase the seller's confidence in payments:

(i) For the regulated market, payments will be made directly by RPSs, which are closer to the source of funds, to the generators, DSOs and TSO; and

(ii) The various regulated or standard agreements will have been approved by the GNEWRC

4.21 OPEN ISSUES

4.21.1 License for Small HPPs

In this document the view expressed is that Small HPPs (less than 13 MW) are not subject to licensure.

4.21.2 Price for Obligated Sales

If RGs are required to sell their output to RPSs for the benefit of tariff customers and RPSs are obliged to buy from RGs, how can the price be negotiated? Neither side can walk away, which raises fears that this would seem to invite collusion. The price should be cost-based with a profit margin to encourage efficiency, regulated by GNERWC. The same is true for purchases of power by the TSO from RGs to cover transmission losses.

4.21.3 Stranded Costs

How will existing contracts between market participants be dealt with if those contracts are now "above market" (such as the thermal power plant contracts)?

4.21.4 Balancing Market

This Vision of GEMM 2015 and the ETM does not describe how the Balancing Market will work inside Georgia. It only talks about the BRP in relation to the country into which Georgian power will be exported and still assumes ESCO (or the BRP) does the balancing inside Georgia

4.21.5 Existing Contracts

Issues related to contractual obligations between the entities presently operating in the Georgian electricity sector, and how these are dealt with, have not yet been considered in the Vision for GEMM 2015 and ETM.

4.22 APPENDIX A

List of the regulatory instruments, rules and regulations that will be required to be in place by 2015.

The following regulations and rules will need to be developed and approved by GNEWRC in order to implement GEMM and the Market Operating Rules:

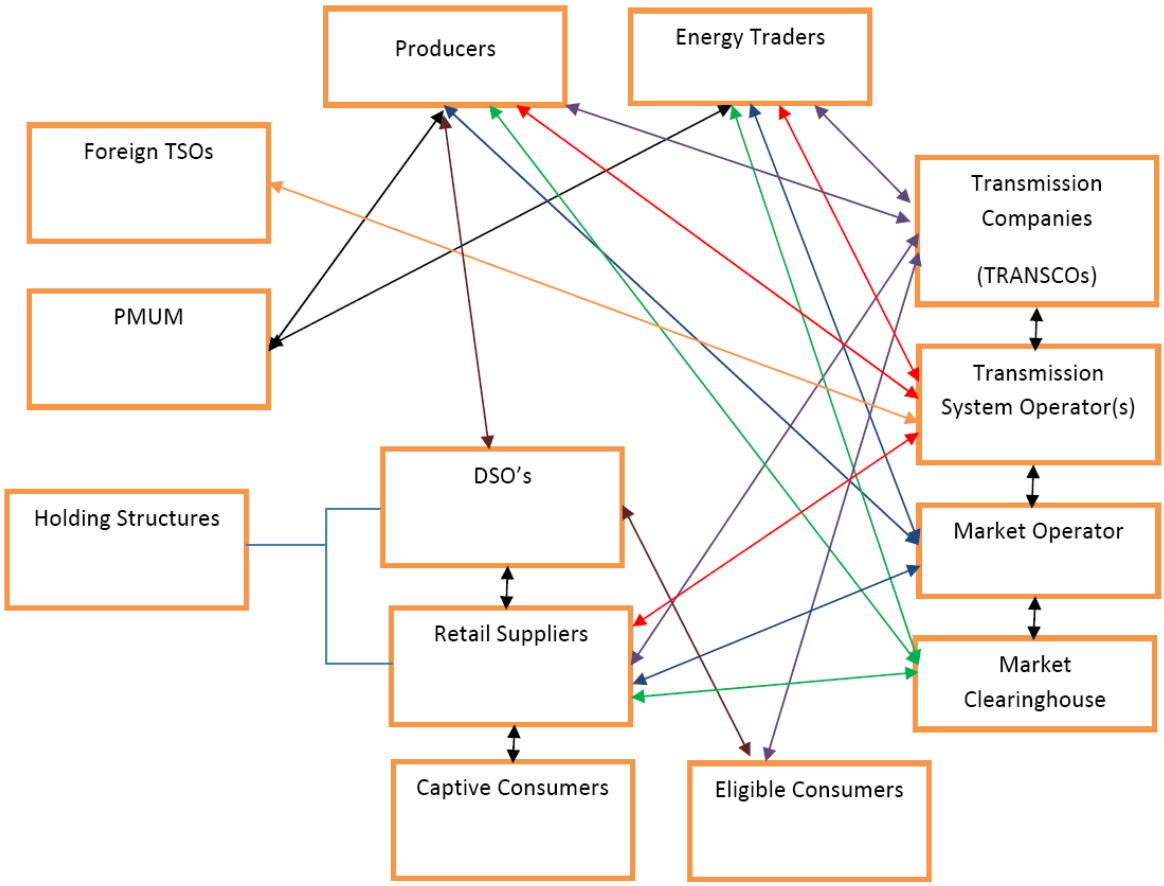
- Grid Code;
- Distribution Code;
- Balancing Rules;
- Settlement Procedures;
- Metering Procedures;
- Communications Procedures;
- Market Clearing Rules;
- Over the Counter Trading Rules;
- Provision of Reserve Capacity;
- Provision and Pricing of Ancillary Services;
- Customer Switching Rules;
- Supplier of Last Resort;
- Connection to the Transmission System;
- Connection to a Distribution System;
- Interconnection Capacity Allocation Rules;
- Transmission Congestion Management Rules;
- Planning, Nominating, Scheduling, Dispatching and System Reporting;
- Competitive electricity market operation during emergencies;
- Use-of-system tariff methodologies for DSOs;
- Licensing of Market Service Providers;
- Electricity Market Surveillance and Market Mitigation Procedures;

- Guarantee of Origin Procedures;
- Purchase Obligation Procedures;
- System Planning and Reliability Criteria Rules.

4.23 APPENDIX B

Parties to Service Contracts (very preliminary)

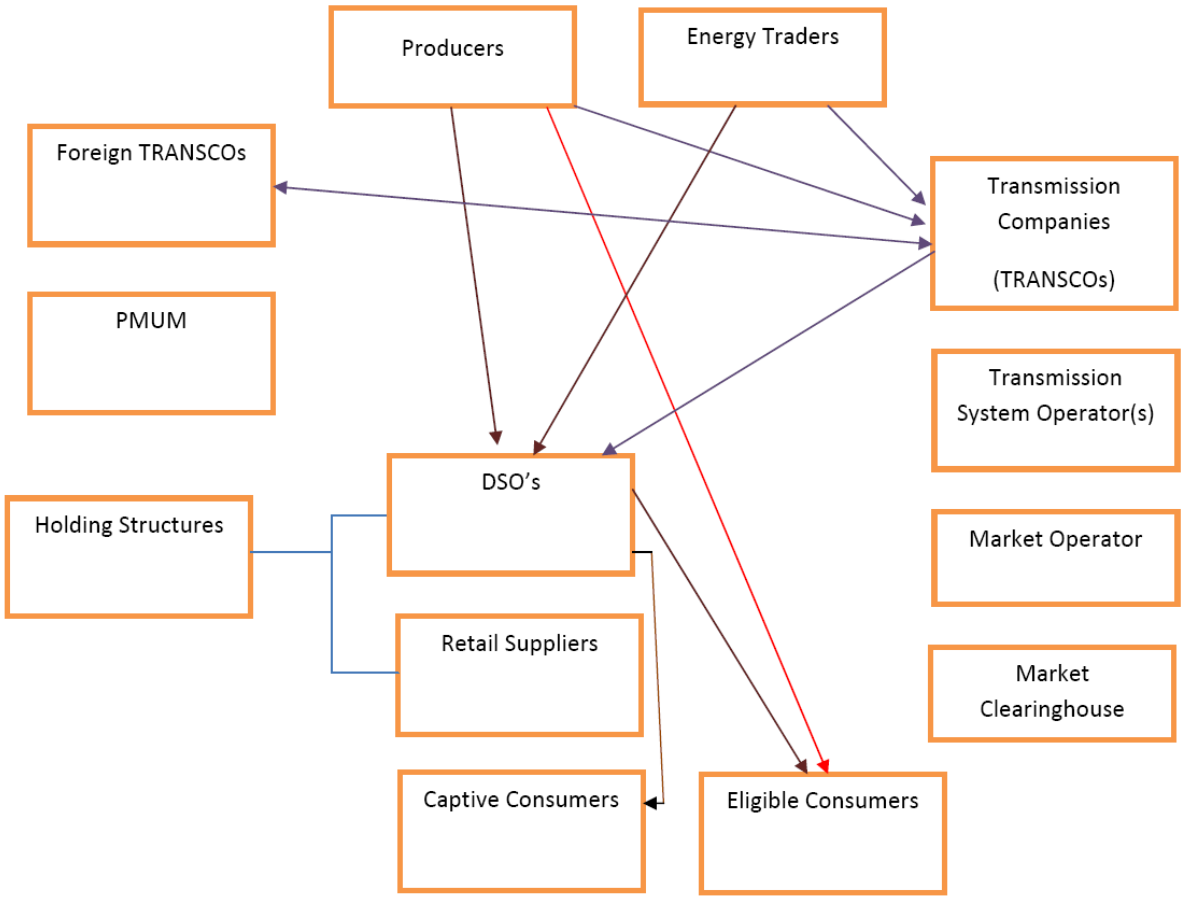
Georgian Electricity Market Model - 2015



4.24 APPENDIX C

Electrical Flows

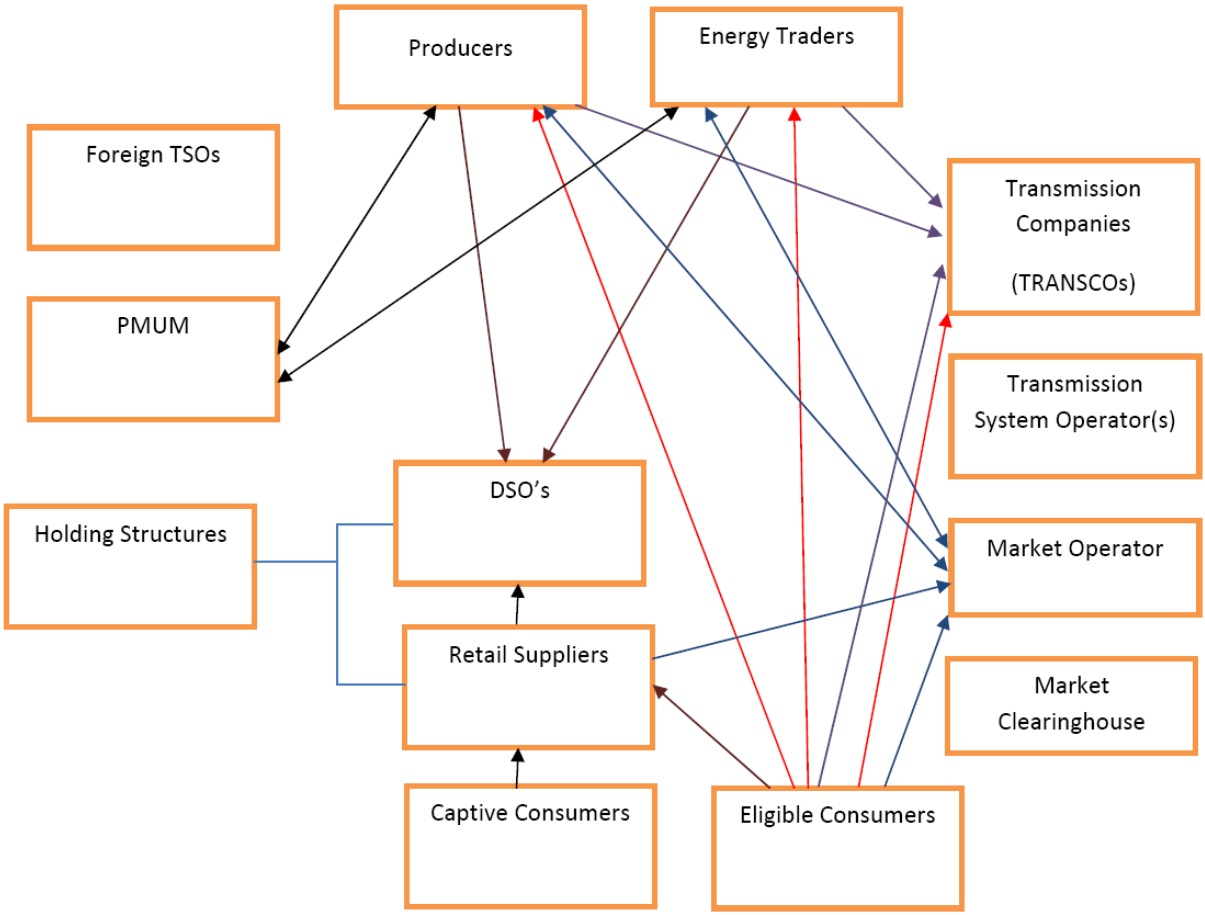
Georgia Electricity Market Model - 2015



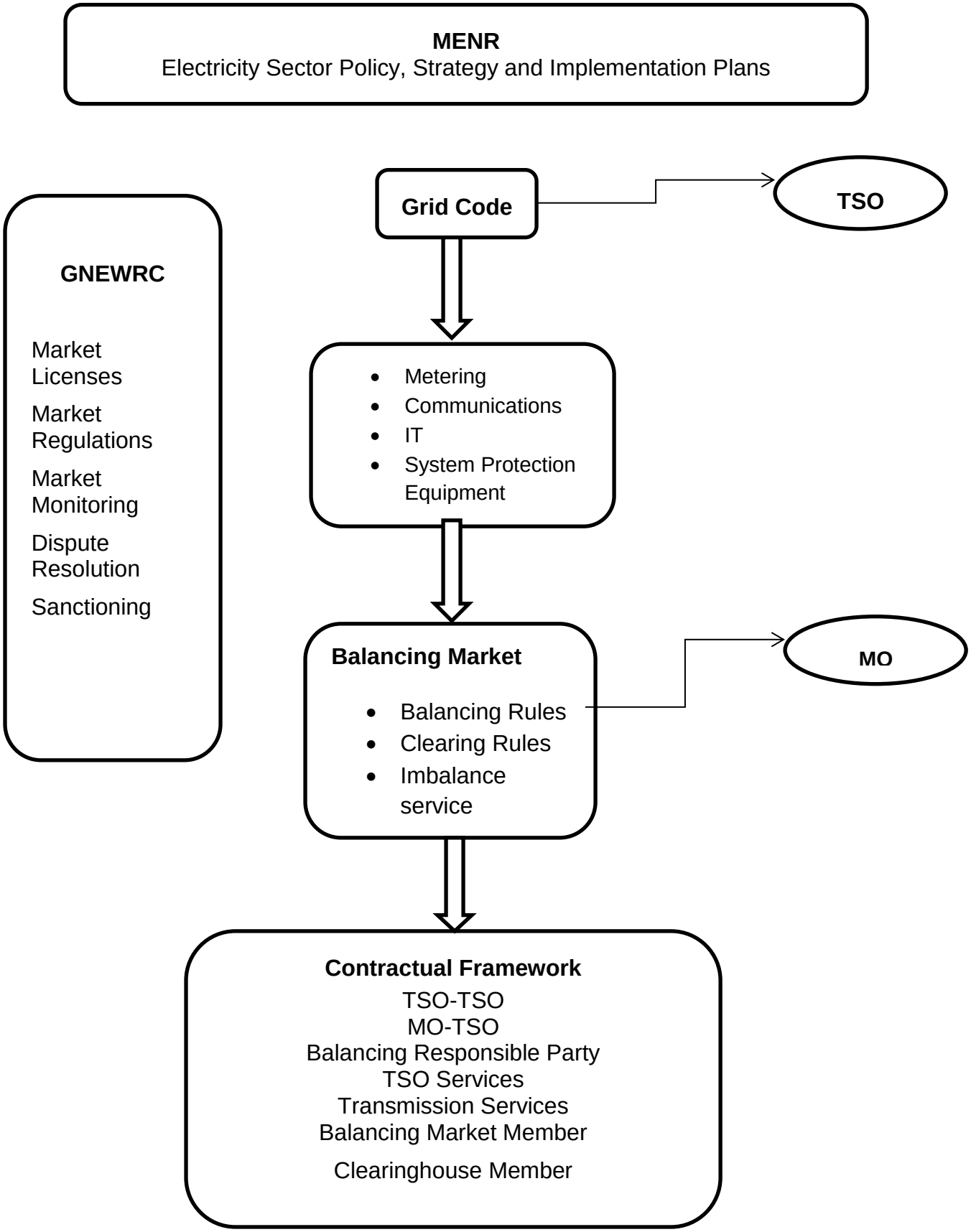
4.25 APPENDIX D

Flow of Funds

Georgian Electricity Market Model - 2015



4.26 APPENDIX E



5. ROAD MAP FOR GEMM 2015

5.1 INTRODUCTION

This Section describes the Road Map to achieving the "GEMM 2015." It should be read together with the other sections of this document.

In addition, this Road Map contains, as Appendix A, Scheduled Tasks and Subtasks, which identifies each task and subtask to be completed, as best may be represented at this stage.

Achieving GEMM 2015 and the ETM is a major undertaking. It will require a great deal of effort by all parties currently operating in the electricity sector of Georgia as well as a significant amount of donor and IFI support. All entities involved in the undertaking will need to remain flexible as the design of the GEMM and ETM evolves in response to ongoing changes in the regional power market. The key documents will therefore be subject to frequent amending and updating.

5.2 MARKET DESIGN AND AGREEMENT ON COOPERATION

Market Design and agreement on cooperation describes the work required to achieve GEMM 2015 by way of a plan reached by consensus between HIPP and the MENR, with GNEWRC's sign-off; it also includes the means by which donors and IFIs will coordinate their efforts.

Market Design and agreement on cooperation is to be accomplished during the period ending May, 2012.

5.3 CREATE GEMM 2015

The HIPP Team completed the GEMM 2015 concept on March 19, 2012.

5.3.1 **Consensus Meetings with MENR** *with GNERWC in Attendance – Obtained Agreement of MENR*

High-level meetings have been held by USAID and HIPP with Deputy Minister of the MENR, Marika Valishvili, with GNERWC, with GSE and with ESCO. The HIPP Team made presentations to explain the principal elements of GEMM 2015 and conduct open discussions on the proposed GEMM and ETM with the aim of achieving consensus as to the proposed design and approval of the MENR to move forward.

MENR has agreed on the principles of t GEMM 2015. The responses of GNEWRC, GSE and ESCO to the GEMM 2015 have been very positive. In addition, many excellent questions have been raised, and HIPP has answered these and provided clarification of other aspects.

A copy of the GEMM 2015, together with an executive summary that highlights (i) the fundamental changes that are proposed and (ii) major decisions to be made to achieve it, is now being delivered to the MENR and to the GNERWC, GSE and ESCO.

HIPP is continuing to engage in discussions with these parties, other key Market Participants, and with donors and IFIs.

5.4 IMPLEMENTATION PARTIES ACTION PLANS (ESCO, GSE, GNERWC, MENR, GOG)

The document "Implementation Parties Action Plan" describes in a step-by-step manner the list of tasks that each participant in the GEMM and ETM process will be

required to complete during each year of the GEMM, through 2015. The Action Plan will of necessity be subject to adjustment and amendments.

5.5 CREATION OF DONOR/IFI COORDINATION WORKING GROUP

It will be necessary to form a GEMM/ETM Working Groupto facilitate, monitor and coordinate the work required. HIPP has created a draft "Charter" which describes the work and procedures envisioned for the Working Group.

The first tasks of the Working Group will be to share the GEMM 2015 and hold meetings with all interested or potentially interested donors, and to approve the Charter, April/May, 2012.

5.6 DESCRIPTION OF LEVEL OF EFFORT AND INVESTMENT REQUIRED

HIPP has prepared a list of activities, separating the actions, work streams and technical assistance required into 10 task areas in Section 8 that briefly describes the estimated level of effort required in each year for each task. These tasks will be discussed with donors and IFIs, who will be requested to work collaboratively on them in order to accomplish GEMM 2015. The Level of Effort and Investment Required will continue to be refined and HIPP will circulate it to all relevant parties upon final approval of the GEMM 2015.

HIPP will remain available to provide clarifications to donors and IFIs.

5.7 PRIMARY LEGISLATION

In order to provide a strong legislative base for the GEMM and ETM, Georgia's two principal electricity sector legislative instruments, the Law on Electricity and Natural Gas and the Electricity (Capacity) Market Rules, will need first to be amended and, in the near term, supplemented by new legislation and sub legislation.

Legal drafting work has commenced.

5.7.1 Law on Electricity and Natural Gas

The existing Law of Georgia on Electricity and Natural Gas requires amending in order for it to provide a suitable legal framework for the electricity sector's new structure and new service providers and for the changed roles of existing sector actors. These amendments will include expanding the licensing and tariff authority of the GNERWC and creating the new entities that will play key roles in the operation of Georgia's competitive electricity market. It is recommended that in addition to the amendments to the present legislation, a new law should be drafted to capture comprehensively the implementation of the GEMM and ETM (see 5.8.3 below).

The draft amendments should be prepared by May 2012. All amendments should be finalized and submitted to the Parliament for adoption in October 2012.

5.7.2 Law on Renewable Energy 2013

Georgia requires a law that implements government policy to develop, implement and commercialize renewable sources of energy, particularly hydropower. This law should implement GO Certificates available under European Directives. It should also clarify Georgia's approach to the adoption of RE and firmly establish commercial incentives for investors to develop RE. The enactment of an RE Law is also a condition of a loan that has been provided to the GoG by EBRD and KfW in respect of the Black Sea Transmission Project.

The draft law is to be prepared by MENR, with technical and legal support as required, by January 2013. It should be submitted to Parliament for adoption in June 2013.

5.7.3 Law on Electricity Market

The Electricity (Capacity) Market Rules (Order of the MENR, No. 77, enacted 1 September 2006, as subsequently amended) were drafted with the current electricity sector structure in mind. In order for the GEMM and the ETM to operate, a new legal framework must now replace the existing guaranteed capacity market and the roles of, and the commercial and financial relations between ESCO and GSE (respectively, the Commercial System Operator and the Dispatch Licensee). A "Law on the Electricity (or Power) Market" will establish the structure, operation of and conditions for access to the market. It will also assign rights and responsibilities to the key participants. Although the Law must be carefully drafted, technical details covering aspects such as trading and settlement on the new ETM should be contained not in the law itself, but in new secondary legislation.

5.7.4 Government Policy

By adopting the GEMM 2015 and approving the GEMM's related action plans, the GoG will effectively amend the Government's energy policy. The Government's subsequent version of the energy policy should therefore reflect these changes.

5.7.5 Law on Independent Regulatory Authorities and Code on Administrative Sanctions

The Law of Georgian Independent National Regulatory Authorities, No. 1666, which came into effect from October 15, 2002, is the primary law that establishes the independence of Georgian regulatory authorities (including the GNEWRC) and that defines their roles and powers, including the authority to regulate in specific fields. It establishes general principles, whereas sector-specific details are found in sector laws, including the Law on Electricity and Natural Gas.

The Code of Administrative Violations 1984 (with amendments) and the Law on Electricity and Natural Gas grants GNEWRC the legal authority to impose sanctions on regulated entities that violate license terms and applicable regulations.

In order to ensure the independence of GNEWRC (a fundamental requirement of EU harmonization) and to provide certainty for Market Service Providers and Market Participants (see below, Section 3), amendments to the legal framework will be required to limit the Ministry's ability to issue regulations affecting the electricity sector.

5.8 ORGANIZATIONAL DEVELOPMENT

The GEMM and ETM will cause structural changes to some of the entities that currently operate in the Georgian electricity sector. It will also require all entities to change not only what they do, but the procedures they use. In addition to more clearly separating the functions and jurisdictions of the MENR and GNEWRC and to further strengthening GNEWRC's regulatory independence, several new entities will be established and two existing entities (GSE and ESCO) will be restructured. This will result in the separation of regulated functions (eg. dispatch, which, for technical reasons, is not suited to competition, and transmission and distribution, sub-sectors where duplication of assets is not economically sound or efficient) from functions that have competitive elements and that can be released to market competition.

Within the GEMM and ETM, *Market Service Providers* will provide regulated services (transmission, dispatch, ancillary services, market operation, and market clearing). Participants in the GEMM and ETM will include Generators, Retail Public Suppliers, Traders, a Consolidator, Eligible Customers and Tariff Customers. Collectively, these entities are described by the term *Market Participants*.

GSE and ESCO will be most affected by GEMM and ETM, as they will be legally separated into their discrete functions, each of which will be licensed separately by GNEWRC. Many of the activities described below in detail relate to the restructuring GSE and ESCO.

5.8.1 Restructuring/Establishing Entities

GEMM 2015 requires the following restructuring steps:

(a) Market Service Providers

Transmission

Four companies, the largest of which is GSE, currently own and operate high voltage assets and provide transmission services. GSE also provides dispatch services. The following discussion assumes the merger of Energotrans into GSE.

Activities:

(i. November 2012 – (1)_create an organizational chart (including personnel assignments) for MENR approval that separates GSE's activities such as coordination of electricity supply and demand, ensuring adequate reserves, and contracting for ancillary services into a TSO Unit in GSE. The organizational chart should also include dedicated staff for supporting the transition to an independent TSO organization including transmission grid code and metering code development, IT development, equipment transfer from GSE to TSO, contracting with other electricity market entities, and related TSO matters; and

(2) Develop an implementation plan (including milestones and responsible personnel) for activities required through the time that there is full legal separation of the TSO from GSE (June 2013).

(ii) February 2013 – GNEWRC will issue a TSO license to the new TSO.

(iii) June 2013 – the TSO Unit will be legally separated from GSE. The GSE will continue to carry out its corporate, metering and transmission functions. A "sharing agreement" will be concluded between GSE and the new TSO company, pursuant to which GSE will supply corporate, human resources and administrative services to the TSO.

At the end of this process, the GSE will remain the main Georgian *Transmission Services Company* and have ownership of and responsibility to operate and maintain the physical assets comprising the *Transmission System*.

ESCO Market Operator Consolidator

ESCO currently performs three essential functions: (i) balancing the electricity market in Georgia; (ii) concluding bilateral contracts for electricity supply; and *(iii)* providing "guaranteed reserve capacity."

MO Activities:

(i) May 2013 – *Market Operator*: ESCO will establish a Market Operator Unit to carry out the Market Operation functions (operating the balancing market for the competitive GEMM, by ensuring that contracted energy purchases and sales quantities are balanced).

(ii) November 2013 – GNERWC will issue an MO License to ESCO in respect of the MO services which it will provide through the new MO Unit.

(iii) December 2013 – the MO will be legally separated from ESCO. The MO also calculates settlements for energy and capacity between Market Participants and provides this information to the *Clearing House*. The Market Operator will work in close cooperation with the TSO and GNEWRC.

ESCO's MO Unit will be legally separated and ESCO will legally transform itself into a new company. Existing bilateral electricity sales contracts to which ESCO is a party (with Small HPPs) will be transferred (novated) to the direct purchasers such as the *Retail Public Suppliers* and Traders. Finally, ESCO's guaranteed reserve capacity function will terminate, as it will no longer required to be performed by ESCO because the individual Market Participants will be required to cover their reserve requirements in the competitive market.

At the end of the process, the MO function will exist outside of ESCO in a new company licensed by GNEWRC and ESCO will be transformed into the Consolidator company, also licensed by GNEWRC.

Market Clearing House

Activity:

November 2013 -- A new independent entity, the *Market Clearing House* (MCH), will be created pursuant to the Law of Georgia on Payment Systems. This is currently a Draft Law pending in Parliament that will govern clearing and settlement operations. Although the MCH will be registered by the National Bank of Georgia, it will operate in the electricity market pursuant to rules and procedures established by GNEWRC to govern electricity market operations. The MCH may be an existing company such as a bank or brokerage, or it may be a new company. In either case, it should be selected on the basis of a competitive tender.

Distribution

Three companies currently provide bundled distribution/retail supply services – Kakheti, Energo-Pro and Telasi.

Distribution Activities:

(i) June 2013 – Draft Distribution Grid Code

(ii) December 2013 – each existing Distribution Company will establish a DSO Unit and an RPS Unit.

(iii) 2014 — GNEWRC will issue to each Distribution Company a DSO License and a RPS License in respect of the DSO and RPS services provided by its respective Units.

(iv) September 2015 – the DSO Units and RPS Units will be legally separated from Distribution Companies. Each new entity will be licensed by GNEWRC.

(b) Independent Regulator – *GNEWRC*

Pursuant to the Law on Electricity and Natural gas, GNEWRC's current responsibilities include the issuance of licenses and the establishment of tariffs for regulated activities. Under the GEMM and ETM, GNEWRC will also be required to oversee the new competitive market as well as the Market Participants and to issue regulations governing market operations. New legislation must therefore specify that GNEWRC have the legal authority to monitor the new market structure as well as all Market Participants.

The new legislation should also clearly separate the responsibilities of the GNEWRC and GoG, represented by the Minister of Energy and Natural Resources. As an independent regulator, GNEWRC must carry out its legal obligations as set out in legislation rather than follow the wishes (or instructions) of the government of the day. However, GNEWRC must also act within the law (which implements relevant GoG policy) and its decisions must be subject to review by the Georgian courts. Most importantly, the MENR and GNEWRC must perform their respective responsibilities and conduct business cooperatively.

Activity:

September 2013 – GNEWRC will establish a new Department of Competitive Electricity Markets (rather than, for instance, focused merely on electricity) for the purpose of monitoring the market (particularly, sales and purchase quantities) and sanctioning violations of the applicable license, rules or regulations.

5.8.2 Institutional Development (GNEWRC, MO, TSO, etc)

In order to create the entities described above and to develop their expertise and capabilities, support in the form of skills training and capacity building for personnel will be required throughout the GEMM ETM process. Such training should also comprise disciplines such as organizational design, human resource needs and qualifications, charter development and management skills. Such support may also take the form of study tours.

Activities:

September 2012-2014

GNEWRC To support the strengthening of GNEWRC as an independent regulator with responsibility to oversee the GEMM and ETM, assistance will be required, both to restructure GNERWC in a way that will enable it to perform its new functions and to ensure that staff are well prepared and trained to perform such tasks.

GSE/ TSO Initially, support and assistance should focus on working with management and senior staff of GSE to establish a TSO Unit within GSE and identifying the personnel and assets that should comprise the TSO Unit. These activities should be approved not only by GSE management, but also by GNEWRC.

ESCO Support and assistance to ESCO should focus on working with management and senior staff to establish a MO Unit and a Consolidator Unit within ESCO and identifying the personnel and assets that would comprise the two units. These activities should be approved not only by ESCO management, but also by GNEWRC.

2013 Ongoing technical and legal support and capacity building to GNEWRC, the TSO Unit and GSE, and ESCO (the MO Unit and the Consolidator Unit) as required to achieve legal separation and independent operation.

2014 Support to all entities continues after legal separation has been accomplished, as required.

5.9 REGULATORY DEVELOPMENT

The development of the GEMM and ETM requires the promulgation of rules governing each function, including: (i) procedures to be followed and the responsibilities of the relevant Market Service Provider in performing them; (ii) the responsibilities of other Market Service Providers and of relevant Market Participants; and (iii) sanctions for default. This sub (secondary) legislation will take the form of regulations, rules, orders, bylaws and decrees. GNEWRC shall have legal responsibility to require, oversee and approve the development of all such regulations. Preparation of specific regulations will be the responsibility of the relevant Market Service Provider, and the process of agreeing and finalizing regulations will incorporate a consultative process, approved by the GNEWRC, that provides opportunities for all stakeholders in the process to actively participate in their development.

The secondary legislation described above comprises a matrix of complex and interrelated documents within the legislative framework of the GEMM and ETM. Care and oversight in their creation will be paramount. Throughout the key documents described above, definitions will be used that (i) conform to European and other international norms, and (ii) set the basis for the drafting work required. The highest quality English translation will be essential.

The following regulatory development tasks are identified under GEMM 2015, in respect of the proposed secondary legislation needed (listed in Appendix I):

2012 Prepare licenses, rules, procedures and regulations sufficient to support ETM in 2013;

2013 Continue the institutional and regulatory development necessary to achieve the GEMM 2015;

2014 Continue the regulatory development necessary to support harmonization with identified countries.

2015 Continue the regulatory development necessary to support harmonization with identified countries.

5.10 INFRASTRUCTURE DEVELOPMENT

The GEMM and ETM will require Georgia's IT and metering infrastructure to be significantly developed. At the very first stage, research should be conducted and infrastructure changes should be designed. A majority of the infrastructure development should be accomplished in 2013 in order to support the ETM and implement a balancing market inside Georgia.

5.10.1 Transmission System Control and Protection (Software and Hardware)

To date, a significant amount of Transmission System control and protection equipment has been procured and installed. Additional equipment continues to be required and will be procured and installed in 2012 and 2013. In subsequent years, the Transmission System and will continue to require additional protection and upgrades.

5.10.2 Metering and Communications Equipment

Commercial electronic metering is required at all commercial trading points on the GEMM. Commercial electronic meters should be procured and installed in 2012 and 2013.

Similarly, communication equipment from all commercial trading points to TSO (GSE) and to MO (ESCO) should be designed, procured and installed in 2013.

5.10.3 Database Development (Software and Hardware)

IT hardware for the Market Operator should be procured and installed in 2012. IT software that handles database management and reporting should be designed, procured, installed and tested. Appropriate trainings for MO personnel and Market Participants should be accomplished during late 2013.

5.10.4 Balancing Market Matching Software

In September-December 2013 — The ESCO/MO must use balancing market-matching software (matching buyers and sellers). The proposed matching software will be specified in a competitive tender, under which the software will be procured, installed and tested. Once the matching software is in place, it will be necessary to train both the MO employees and the Market Participants on the use of the software and on how Market Participants interface with the MO during the bidding process.

5.10.5 Harmonization

As an additional benefit for Georgia, the GEMM 2015 includes as a part of the GEMM and ETM processes, movement towards legal and regulatory "harmonization" with Europe. This follows as a natural consequence of harmonizing Georgia's primary and secondary legislation with that of Turkey, which is a key element in the creation of the ETM. However, "harmonization" does not mean strict compliance with all the European Union's directives on electricity. Rather, it means the development of the GEMM in line with the broad principles of EU competitive electricity markets legislation so as to facilitate the trade of electricity with neighboring countries.

The proposed timeline for harmonization is as follows:

2012-13 *Harmonization to the extent that enables reciprocal electricity trading across borders – Turkey*: initially a narrow level of harmonization of laws and regulations applicable in Georgia with those of the EU is proposed. The intention is to enable

	electricity sales into Turkey's competitive electricity market on the basis of the CBETA between Georgia and Turkey signed on January 20, 2012.
2013-14	*Movement toward the convergence of regional energy markets – Armenia*: as other regional markets, particularly Armenia, continue to develop and refine the design and operation of their electricity sectors, Georgia will also need to change the structure and rules governing the GEMM; harmonization is a continuous activity throughout the GEMM 2015 process.
2014-15	*Convergence with South Eastern Europe (SEE) countries* – and extend convergence to other countries also, eg. Azerbaijan and Ukraine.
2015 – 16	*Other potential electricity markets* – these include Russia, Iraq and Syria, and of course, the EU.
2017	*Fully compliant for power market opening* – State policy, contained in a Resolution of the Parliament of Georgia, "Main Directions of State Policy in the Power Sector of Georgia," of June 7 2006, provides that by 2017 Georgia's electricity market must be fully open.

GEMM 2015 will be regularly reviewed and updated to take account of developments in the Georgian, Turkish, regional and European electricity sectors and the commitments that Georgia may undertake within the framework of regional cooperation.

Activities:

2013-2014	Draft new licenses required for the Market Operator, the Transmission System Operator, the Retail Public Supplier, the Distribution System Operator and the Electricity Trader.

5.11 CONTRACTUAL FRAMEWORK

The suite of agreements required to establish and operationalize the GEM and ETM are essential to its effective operation. It will be necessary to draft agreements that accurately and fairly reflect the obligations and rights of Market Service Providers and Market Participants, as well as to reflect appropriate risks and their representative liabilities. It is proposed that model contracts be prepared and adopted using plain English that ensure consistency across the models. Contracts governing the provision of services will be subject to review and approval by GNEWRC.

TSO-TSO

Several entities performing and/or owning assets used for Transmission System services currently exist in Georgia. If all of these entities continue to operate (and are licensed by the GNEWRC – some presently do not have transmission authorization) – agreements between them (and potentially their successor TSOs) will be required. Such agreements should cover interconnection of the respective Transmission Systems and the provision of transmission services.

TSO-TSO Cross-Border

The Georgian TSO will require interconnection agreements (covering connection and operational issues) with each operator of the Transmission System in countries with which the Georgian Transmission System is interconnected.

MO-MO

The Georgian Market Operator requires agreements with the entity performing MO services in each country with which Georgia is interconnected.

MO-TSO

The MO in Georgia will also require an agreement with the TSO in Georgia covering coordination of data transfer.

Balancing Responsible Party

The Balancing Responsible Party is the entity (a generating company) in the country where energy flowing across a border from another country is received. It will be necessary for the selling party to conclude a contract with a BRP, pursuant to which the BRP agrees to generate electricity on short notice (normally from spinning reserve) to ensure that any interruption of the flow into the receiving country will be covered internally in the receiving country.

TSO-DSO

The TSO and each DSO will conclude a contract covering the technical conditions of interconnection of the Transmission System with the relevant Distribution System, and metering.

TSO-Regulated Generators

The TSO will conclude a contract with each of the Regulated Generatorsfor the purchase of ancillary services and the purchase of electricity to cover Transmission System losses. The TSO will also conclude contracts with generators for settlement and management of the real-time imbalances.

Transmission Companies-Generators

The Transmission Companies (owners of the Transmission System) will conclude a contract with each generator that is connected to the Transmission System covering the technical conditions for connection to the System, and metering.

Transmission Services

Transmission Services contracts are between the Transmission Companies and each Market Participant using the Transmission System. These contracts cover the provision of electricity transport service.

Balancing Market Member

An agreement among generators to provide balancing services, under which each generator agrees to provide support services will be concluded.

Market Clearing House Member

The Market Clearing House will require a standard agreement pursuant to which prospective members agree to the rules applicable to clearing and settlement.

5.12 LICENSING OF ENTITIES

The GNEWRC shall issue a license to each Market Service Provider – the TSO, DSOs, MO, MCH and BRP – and Market Participant, including IPPs and Traders.

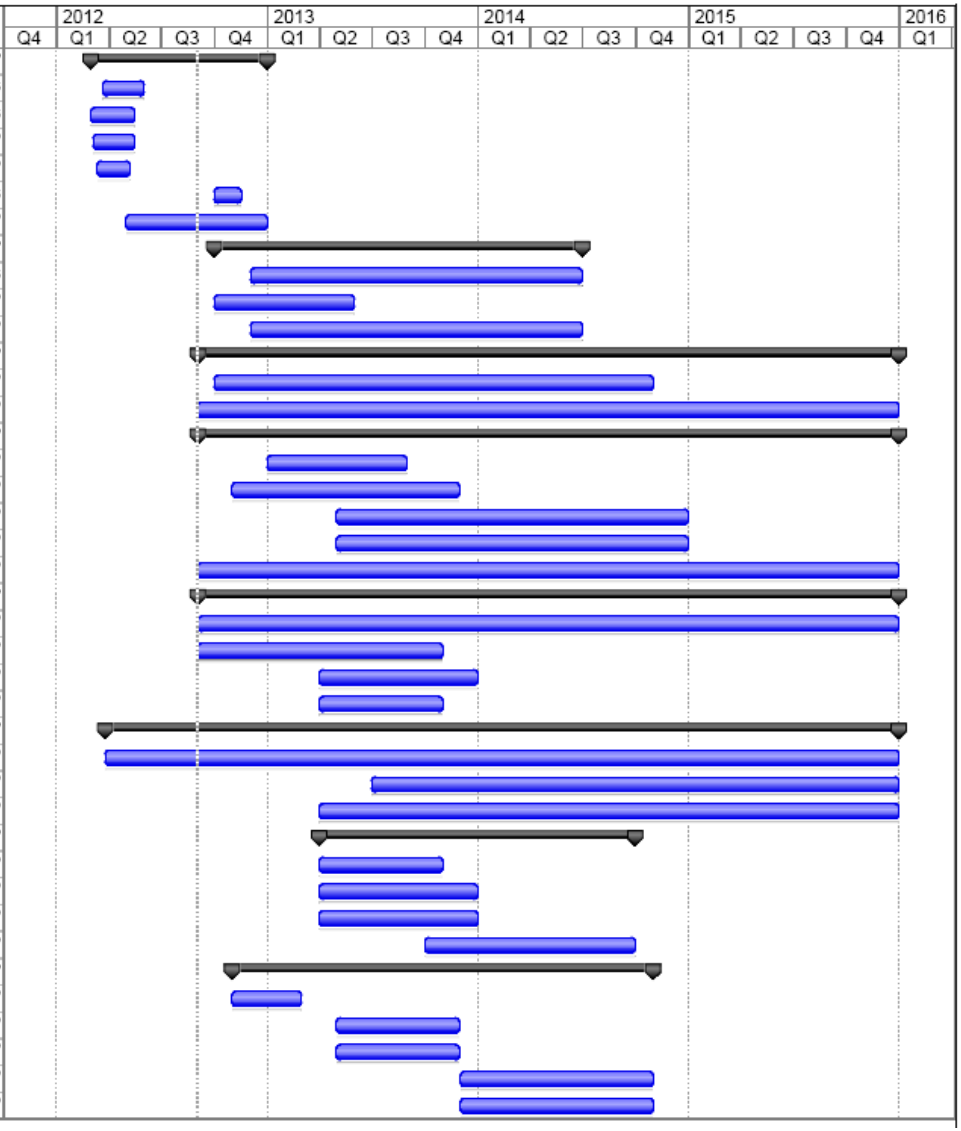
Currently the Law on Electricity and Natural Gas does not require licenses for all electricity sector activities. Generation, dispatch, transmission and distribution are licensed, but the balancing activities currently performed by ESCO (imports, exports, transit, generation for one's own consumption – if the generator is not connected to the Transmission System or a Distribution System – and installed capacity under 13 MW) are not licensed.

The Law on Electricity and Natural Gas does not currently recognize trading as a separate activity and therefore trading is also not subject to license.

The Law on Electricity and Natural Gas will require amending on all of the above-described licensing matters so that each Market Service Provider and each Market Participant (other than Eligible Customers) is required to obtain a license.

5.13 APPENDIX A – SCHEDULED TASKS AND SUBTASKS UNDER ROAD MAP

ID	Task Name	Duration
1	**Market Design and Coordination**	**218 days?**
2	Consesus meetings with MENR,GNERWC	51 days
3	Final Version of the Vision	54 days
4	Action Plans by entity (Market participants)	52 days?
5	Description of the tasks for donors	41 days?
6	Allocate tasks to donors	35 days
7	Creation of Donor Cordination Working Group	175 days?
8	**Primary Legislation**	**456 days?**
9	Update Law on Electricity and Natural Gas	411 days
10	Renewable Energy Law 2013	175 days?
11	Law on Electricity Market	411 days?
12	**Organizational Development**	**869 days?**
13	Establishing entities (TSO,MO,MCH,DSO,Consolidato	545 days?
14	Institutional Development (GNEWRC, MO, TSO, MCH	869 days?
15	**Regulatory Development**	**869 days?**
16	Balancing Rules	174 days?
17	Settlement, comunicication and other Procedures	282 days?
18	Guarantee of Origin Procedures	436 days?
19	Purchase Obligation Procedures	436 days?
20	Other regulations	869 days?
21	**Infrastructure Development**	**869 days?**
22	System Protection software&hardware	869 days?
23	Meters/Communications and other	304 days?
24	Database Development (Software& Hardware)	197 days?
25	Balancing market matching software	154 days?
26	**Harmonization**	**984 days?**
27	Turkey	984 days?
28	South Eastern Europe(SEE)	654 days?
29	Other Markets (Armenia, Azerbaijan, et.c.	719 days?
30	**Contractual Framework**	**392 days?**
31	TSO-TSO (Inside and outside Georgia)	154 days?
32	MO-MO, MO-TSO	197 days?
33	Balancing Responsible Party Contract	197 days?
34	TSO, DSO, Services, Ancillary services and other	261 days?
35	**Licensing of Entities**	**522 days?**
36	Licensing TSO	86 days?
37	Licensing MO	153 days?
38	Electricity trade license	153 days?
39	Licenising of RPS	240 days?
40	Licensing DSO	240 days?



6. KEY MILESTONES FOR GEMM 2015

KEY MILESTONE NO. 1

ESTABLISHMENT OF DONOR/IFI COORDINATION WORKING GROUP

Deadline: May 14, 2012

Responsible Party: MENR

KEY MILESTONE NO. 2

AMENDMENTS TO MARKET RULES AIMING AT ENSURING TRANSPARENT AND NON-DISCRIMINATORY ACCESS TO INTERCONNECTION TRASMISSION LINES BY INVESTORS

Deadline: December, 2012

Responsible Party: MENR

KEY MILESTONE NO. 3

DRAFT AND ADOPT THE LAW ON RENEWABLES IN LINE WITH EU PRINCIPLES

Deadline for initial draft: October, 2012

Deadline for final draft: November, 2012

Deadline for adoption: Spring, 2013

Responsible Party: MENR

Responsible Party for adoption: Parliament

KEY MILESTONE NO.4

MODIFICATIONS TO ELECTRICITY AND NATURAL GAS LAW

Deadline for final draft of initial set of modifications: December, 2012

Deadline for adoption of initial set of modifications: Spring, 2013

Overall deadline for adoption of all required modifications: June, 2014

Responsible Party: MENR

Responsible Party for adoption: Parliament

KEY MILESTONE NO. 5

NEW LAW ON ELECTRICITY MARKET OF GEORGIA

The Law on the Electricity Law of Georgia will capture principal elements of the GEMM 2015.

Deadline: Draft - December 2013

Responsible Party: MENR

Deadline: Enactment – May 2014

Responsible Party: Parliament

KEY MILESTONE NO. 6

GRID CODE

1) Develop Draft Initial Transmission Grid Code

Develop table of contents and comparison of sample grid provisions to begin drafting Georgian transmission grid code

Deadline: October 2012

Draft Grid Code

Deadline: March 2013,

Responsible Party: GSE

Approve Initial Grid Code

Deadline: March 2013

Responsible Party: GNEWRC, GSE, MENR

2) Updated Grid Code (with all articles included) Approved

Deadline: January 2014

Responsible Party: GNEWRC, GSE, MENR

KEY MILESTONE NO.7

CREATION OF TRANSMISSION SYSTEM OPERATOR (TSO) AND TRANSCOS

1) Functions of TSO Developed

Approve Proposal for converting Dispatch Center into TSO

Deadline: December 2012

Responsible Party: MENR and GNEWRC

1) Develop and adopt license for TSO

Deadline: February 2013

Responsible Party: GNEWRC

2) Legal/Functional Separation of TSO Management from GSE Management

Separate Dispatch Centre from GSE Transco personnel and equipment (e.g. separation of management and personnel and equipment, setting up of IT systems for coordination with MO and MCH, drafting if charter, etc.).

Deadline: March 2013

Responsible Party: MENR and GSE

3) Independent TSO Established

TSO begins operations under new management

Deadline: June 2013

Responsible Party: MENR and GSE

KEY MILESTONE NO. 8

CREATION OF MARKET OPERATOR

1) Functions of Market Operator Developed

Approve a proposal for creation of MO functions within ESCO

Deadline: May 2013

Responsible Party: MENR and ESCO

4) Develop and adopt license for MO

Deadline: November 2013

Responsible Party: GNEWRC

2) Independent MO Established

MO begins operations

Deadline: December 2013

Responsible Party: GNEWRC, MENR and ESCO

KEY MILESTONE NO. 9

GNEWRC: ESTABLISHMENT OF NEW DEPARTMENT ON ELECTRICITY MARKET OPERATIONS

This will require the amendment of the GNEWRC By-Laws.

Deadline: September 2013

Responsible Party: GNEWRC

KEY MILESTONE NO. 10

TARIFF METHODOLOGY for TSO, MO and Transco

Develop the draft Tariff Methodologies with participation by relevant sector stakeholders.

Deadline: January 2013

Responsible Party: GNEWRC

Adopt the Tariff Methodologies

Deadline: May 2013

Responsible Party: GNEWRC

Approval of the Tariffs under the new methodologies

Deadline: May 2013

Responsible Party: GNEWRC

7. IMPLEMENTATION PARTIES ACTION PLAN

INTRODUCTION

This Implementation Parties Action Plans is a step-by-step and year-by-year list of tasks that each stakeholder in the GEMM and ETM process must complete in order for GEMM 2015 to be achieved (initially in 2013 when The Black Sea Transmission lines are completed and later on, as the market expands to include other regional participants). The tasks identified herein include changes in sector structure, new legislation and sub-legislation and new contracts. This document outlines the tasks of the following stakeholders:

- GoG/MENR;
- GNEWRC;
- ESCO/the Market Operator/Consolidator;
- The Market Clearing House;
- The GSE/TSO(s); and
- The Distribution System Operators.

The tasks outlined during years 2012 and 2013 are more detailed than those in the later years of the GEMM 2015 process. Because the tasks build on each other, what will actually be required in the latter years will depend on the accomplishments at the beginning of the process. For that reason, revisions of Implementation Parties Action Plans are foreseen in the plan as an annual activity of the GoG.

2012

Each of the elements in the 2012 task list are essential to enable cross-border trade in electricity when the new lines with Turkey become fully operational (March 2013). Many of the changes required in 2012 are mandated by the entry into force of the amendments to the Law on Electricity and Natural Gas.

GOVERNMENT OF GEORGIA

The GoG's principal role has three elements. First, the GoG will set the entire process in motion by agreeing on the strategy, tasks and milestones established in GEMM 2015. Second, it will guide all of the other relevant stakeholders in the development and achievement of their Implementation Party Action Plans during each year of the process. Third, it will bring into force the legislative framework that will serve as the foundation for all future GEMM tasks. GoG activities prior to June 2012 address the first and second elements described above. The work in June and subsequent months relates to making changes in the legal framework.

March-April

- Initial agreement on the GEMM 2015, the Road Map 2012-2015 and the Implementation Parties Action Plans for 2012.

September-December

- Amendments to market rules aiming at ensuring transparent and non-discriminatory access to interconnection trasmission lines by investors;
- Draft the law on Reneweble Energy;

- Final draft of initial sets of modifications to the Law on Electricity and Gas;
- Receive and approve Implementation Parties Action Plans for 2013.

GNEWRC

After the GoG, GNEWRC will be the driving force in the GEMM 2015 process. Not only will it be restructured, (adding the new Department of Competitive Electricity Markets), it will also manage the development of virtually every legal instrument required to make cross-border trade operational. Though it is not reflected in the Implementation Parties Action Plans, owing to the fact that all principal trading activities, all harmonization activities and the interpretation of all sub-legislation and contracts will be in English, it is imperative that GNEWRC strengthen its English language capacities.

September-December

- Working with ESCO/MO on drafting new interim Market Operating Rules;
- Working with ESCO/MO on drafting interim Electricity Market Settlement Procedures;
- Working with ESCO/MO on drafting interim Market Clearing Rules;
- Working with GSE/TSO on drafting initial Transmission Grid Code;
- Develop a draft TSO License (working jointly with GSE/TSO) pursuant to GNEWRC's public processes.

ESCO/MO:

In 2012 ESCO/MO will be heavily involved in the development of licenses, rules and procedures required to commence cross-border electricity trade in 2013.

September-December

- Draft new interim Market Operating Rules;
- Draft interim Electricity Market Settlement Procedures for approval by GNEWRC;
- Draft interim Market Clearing Rules for approval by GNEWRC.

GSE/TSO

GSE creates an organizational chart (including personnel assignments) for MENR approval that separates GSE's activities such as coordination of electricity supply and demand, ensuring adequate reserves, and contracting for ancillary services into a TSO Unit in GSE. GSE develops an implementation plan (including milestones and responsible personnel) for activities through the full legal separation of the TSO from GSE.

September – December

- Modification of GSE dispatch into TSO
- GSE drafts initial Transmission Grid Code.

2013

GOG

During 2013, the GoG will be involved in three principal activities leading to the realization of GEMM 2015. The first will be the adoption of Law on Renewable Energy and the drafting Law on Electricity Market. The second will be that of harmonizing rules and procedures for the cross-border trade of electricity with those of Georgia's immediate trading partners, Turkey, Armenia and Azerbaijan. The third will be to receive and approve the Implementation Parties Action Plans submitted by other GEMM stakeholders for 2014.

January-May

- Adopt modifications on the Electricity and Natural Gas Law;
- Adopt the Law on Renewable Energy;
- Harmonization with Turkey;
- Harmonization with Armenia;

June- December

- Commence harmonization with SEE;
- Draft new Law on Electricity Market;
- Receive Implementation Parties Action Plans for 2014.

GNEWRC

GNEWRC's restructuring and substantive work will be the heaviest during year of 2013 when it is restructuring itself to manage the competitive electricity market and as it is involved with ESCO/MO and ESE/TSO in the development of licenses, rules and procedures required to commence cross-border electricity trade in 2013.

As indicated, in 2013 GNEWRC will be working closely with ESCO/MO and GSE/TSO to finalize and issue licenses, rules and procedures required to commence cross-border electricity trade in 2013.

January – June

- Finalize the TSO License.
- Grant TSO license to GSE/TSO;
- Approve the Initial Transmission Grid Code submitted by GSE/TSO;
- Develop Tariff Methodologies for TSOs, Transcos with the participation of GSE and other stakeholders;
- Approve the Initial Balancing Market Rules submitted by ESCO/MO;
- Approve interim Electricity Market Settlement Procedures submitted by ESCO/MO;
- Approve TSO-Generator's Ancillary Services Contract Template submitted by GSE/TSO for approval.
- Approve Initial Market Operating Rules submitted by ESCO/MO;
- Review a draft MO license pursuant to GNEWRC's public processes;
- Finalize MO License;
- Draft the Trader License through stakeholder and public consultation.

October — December

- Establish new department on competitive electricity markets;
- Approves new internal structure including new department on competitive electricity markets;
- Approves new internal rules of procedure including functions of new department on competitive electricity markets;
- Approve Cross-border Capacity Allocation Rules (initially for Turkey) submitted by GSE/TSO for approval;
- Approve Congestion Management Rules (initially, for Turkey) submitted by GSE/TSO;
- Approve TSO-TSO contract templates submitted by GSE/TSO for approval;
- Approve MO-TSO contract templates submitted by ESCO/MO;
- Market Clearing House process: Working with ESCO/MO, agree and begin the process to select/approve the MCH;
- Approve regulated Contracts between Market Service Providers;
- Finalize Trader License;
- Grant ESCO/MO the MO License.

MARKET CLEARING HOUSE

The MCH will be created pursuant to the Law of Georgia on Payment Systems that will govern all Georgian clearing and settlement operations including those related to the electricity markets. Although the MCH will be registered by the National Bank of Georgia, it will operate in the electricity market pursuant to rules and procedures established by GNEWRC to govern electricity market operations.

The clearing of transactions from cross border trading will need legislative framework from both the selling and buying countries. Even more complicated will be transactions where a third country providing transit services is involved.

October-November

- Adopt Clearing House procedures;
- Register trained clearing house members;
- Establish and sign clearing house template contracts
- MCH legally established; and
- Conduct clearing and settlement operations for the competitive electricity market.

ESCO/MO

ESCO will carry out three principal activities in 2013. The first is to establish a Consolidator Unit to consolidate the output of Small HPPs for marketing and sales in order to facilitate electricity trading and also to provide balancing assistance. The second is to establish, pursuant to the new Law on Payment Systems, the Market Clearing House. Lastly, ESCO will be heavily involved in establishing the Market Operator Unit, and in the development of rules and procedures required to commence cross-border electricity trade in 2013.

January-May

- Draft proposed Balancing Market Rules for approval by GNEWRC;
- Draft a Consolidator Agreement Template and submit it to the GWENRC for approval;
- Draft OTC trading procedures;
- Conclude a MO-TSO Agreement.

June-September

- ESCO creates a MO Unit;
- ESCO meets MO Unit staffing needs (employees re-assigned from ESCO to MO Unit or hired);
- ESCO assesses and designs MO Unit'sMetering/Comm/IT requirements;
- Draft proposed MO to TSO contract template for approval by GNEWRC;
- Unit participates in process to select a Consolidator;
- MO Database and balancing software installed.

GSE/TSO(s)

GSE will create a unit inside GSE to perform the TSO function. This will occur after the amendments to the Electricity and Natural Gas law have been passed (prior to December 2012). The remainder of the GSE/TSO activities during 2013 will be focused on making the TSO operational and giving it the capacity it will require to operate in the cross-border market. Much of that work will involve the development of legal instruments and rules for approval by the GNEWRC.

January-September

- GSE drafts Metering and Communications Rules and submits them to GNEWRC for approval;
- GSE begins drafting Congestion Management Rules (initially for Turkey); and
- GSE begins drafting Cross-Border Capacity Allocation Rules (initially for Turkey).
- GSE creates TSO Unit;
- GSE/TSO Unit finishes Cross-Border Capacity Allocation Rules (initially for Turkey) and submits them to GNEWRC for approval;
- GSE/TSO Unit drafts Initial Transmission Grid Code and submits it to GNEWRC for approval;
- GSE/TSO Unit drafts TSO-TSO (Interconnection Operation Agreement) template contracts and submits it to GNEWRC for approval;
- GSE/TSO Unit completes Congestion Management Rules (initially for Turkey) and submits them to GNEWRC for approval;
- GSE/TSO Unit drafts TSO – Generators' Transmission Losses Contract Templates and submits to GNEWRC for approval;
- TSO procures the MO Unit'sMetering/Comm/IT requirements;
- TSO's Metering/Comm/IT installed.

DSOs

Work in developing the DSOs will occur late in 2013 when each Distribution Company establishes a DSO Unit and an RPS Unit and when the DSO Units draft and submit contract templates to GEWRC for approval.

2014

GOG

In early 2014 the GoG will revise and approve the GEMM 2017, together with its roadmap. The remainder of 2014 will be focused on harmonizing Georgia practices and procedures with those of its neighbors, Turkey, Armenia and the SEE. Late in the year it will review the GEMM 2015 Stakeholders' Implementation Parties Action Plans for 2015.

January-September

- Adopt New law on Electricity Market;
- Adoption all required modification for Electricity and Natural Gas Law.

GNEWRC

During 2014 GNEWRC will carry out the following activities, most of which are related to finalizing licenses and approving codes.

- Approve the initial Distribution Grid Code submitted by the DSOs;
- Approve the DSO-TSO contract template;
- Approve updated Trasnmission Grid Code;
- Approve the Final Transmission Code submitted by TSO;
- Grant a License to the Consolidator;
- Approve amendments to the Market Operating Rules;
- Approve updated Clearing and Settlement Rules;
- Approve International Interconnection Agreements submitted by GSE/TSO;
- Approve TSO-DSO Contract Templates
- Draft Retail Public Seller License with public and stakeholder participation;
- Draft DSO License with public and stakeholder participation
- Finalize the RPS License;
- Finalize the DSO License;
- Approve the final Distribution Code submitted by DSO;
- Grant DSO Licenses;
- Grant RPS Licenses; and
- Contribute to GEMM 2017.

ESCO/MO

Finally, ESCO will begin the process of separating the MO and Consolidator functions.

- ESCO establishes a legally separate MO Unit and a Consolidator Unit;
- ESCO drafts Revised Balancing Rules and submits them to GNEWRC for approval;
- ESCO develops Final Draft Operating Rules and submits them to GNEWRC for approval.
- ESCO contributes to GEMM 2017.

MARKET CLEARING HOUSE

- Drafts revised Clearing and Settlement Rules and submits them to GNEWRC for approval;
- Drafts revised Clearing House Rules and submits them to GNEWRC for approval.

GSE/TSO

- Update Trasnmission Grid Code
- Late in the year, contributes to GEMM 2017 Vision.

DSOs

Late in the year, the DSOs will:

- Draft initial Distribution Code and submit to GWENRC for approval.
- Conclude MO-TSO Agreements.

2015

GOG

During 2015 GoG will continue to harmonize Georgia's sub-legislation and contracts with those of Turkey, Armenia, SEE countries and other markets, as required.

GNEWRC

Much of GNEWRC's work in 2015 will focus on the recently established DSOs.

- Approves Final Market Operating Rules, submitted by ESCO/MO;
- Approves the Revised Balancing Rules submitted by ESCO/MO;
- Approves Updated Interconnection Operability Agreement submitted by the TSO;
- Approves Updated Cross-border Capacity Allocation Rules submitted by the TSO;
- Approves Updated Congestion Management Rules submitted by the TSO;
- Approves SOLR Rules, submitted by relevant DSOs;
- Approves the initial Distribution Grid Code, submitted by relevant DSOs
- Approves Customer Switching Rules submitted by DSOs.
- Approves the revised MC Rules, submitted by MCH;

MARKET CLEARING HOUSE (MCH)

- Draft revised MC Rules and submits to GNEWRC for approval.

DSO(s)

- Contributes to GEMM 2017 Vision;
- Draft revised Distribution Grid Code and submits them to GWENRC for approval;
- Draft SOLR Rules and submits to GWENRC for approval;
- Draft Customer Switching Rules and submits to GWENRC for approval;
- Establish DSOs and RPSs as separate legal entities; and
- Draft initial Distribution Code and submits to GWENRC for approval.

8. PROJECTED ACTIVITIES TO IMPLEMENT ETM AND GEMM 2015

ETM: ELECTRICTY TRADING MECHANISM				
GEMM 2015: GEORGIA ELECTRICTY MARKET MODEL OF 2015				
Main Tasks	2012	2013	2014	2015
Task 1. Design and planning of the ETM				
Vision	Draft vision			
Road Map ("The Plan")	Draft Road Map			
Action Plans for Each Implementation Party	Draft and agree on action plans			
ETM Working Group (create, coordinate, seek consensus, update of plan as needed)	Support the working group	Support the working group		
Task 2 Capacity Building				
TNA	Complete a TNA	Complete a TNA	Complete a TNA	
In country events (seminars, workshops)	Provide at least 12 workshops	Provide at least 6 workshops	Provide at least 6 workshops	
Study tours	Provide at least 1 for 10 participants	Provide at least 1 for 10 participants		
International training programs (such as with Statkraft)	Provide in-house 2-wk training for 5 trainees	Provide in-house 2-wk training for 5 trainees	Provide in-house 2-wk training for at least 5 trainees	
Semiannual conference on electricity market development	Provide two presentations at NARUC program, conference in November with Partnership Fund	Provide two conferences	Provide two conferences	Provide two conferences
Roundtable discussions on the Electricity Market Development, Rules, Procedures and Regulations	Provide 2 Roundtable discussions	Provide 2 Roundtable discussions	Provide 2 Roundtable discussions	Provide 2 Roundtable discussions
Task 3 Institutional Development				

Organizational Design and Development of MO	Research and analysis of MO designs in developed electricity markets and recommend changes to GoG			
Creation and development of the Market Operator		Develop a proposal & Creation of MO functions within ESCO	Independent MO established	
Organizational Design and Development of TSO	Research and analysis of TSO designs in developed electricity markets and recommend changes to GoG			
Develop an asset management program for GSE	Develop draft program	Support GSE in finalizing and implementing the program		
GSE load forecasting methodology	Develop methodology for planning	Develop methodology for planning		
Modification of GSE Dispatch into a TSO	Develop proposal for reorganization & creation of TSO functions within GSE	Support legal separation	Independent TSO established	
Develop concept for TSO's website	Analyze and research TSO websites and make recommendations to GSE			
GNEWRC reorganization		Develop a proposal for reorg. GNEWRC, Support GNEWRC reorg. & strengthening	Support GNEWRC market monitoring capacity	Support GNEWRC market monitoring capacity
Development of Clearing House mechanism	Research and evaluate Clearing House mechanism options	Provide recommendations for Clearing House mechanism		
Task 4 Regional Market Analysis and legislative basis for electricity trading				
Turkish power market analysis/legislative framework and recommendations for compliance and/or modifications (such as PX node for Georgian border)	Analyze node on Turkish-Georgia border and prepare a proposal to GoG and GoT	Further develop & start implementation PX node at the Georgian-Turkish border	Further develop & Implement fully compatible trading mechanism	Continue harmonization of trading mechanism
Review and analyze trading to SEE		Analyze and recommend interim trading mechanism	Further develop & implement interim trading mechanism	Further develop & implement fully compatible trading mechanism
Review and analyze Azerbaijan transit trade into Turkey and its incorporation into the ETM	Analyze and recommend interim transit trading mechanism	Further develop & implement transit trade mechanism	Further develop recommended trading mechanism	Further develop & Implement fully compatible trading mechanism
Review and analyze impacts on Russia and Armenia import/export trade as part of the ETM	Analyze impacts & opportunities of ETM on Russia & Armenia trade	Analyze & recommend interim regional trading mechanism	Further develop recommended regional trading mechanism	Further develop recommended trading mechanism
Regional Market Modeling/Analysis	Model regional markets and evaluate trade potential between the regional countries	Model regional markets and evaluate trade potential between the regional countries	Model regional markets and evaluate trade potential between the regional countries	Model regional markets and evaluate trade potential between the regional countries

Historical and forecast market prices	Analyze historical prices and forecast future regional market prices	Analyze historical prices and forecast future regional market prices	Analyze historical prices and forecast future regional market prices	Analyze historical prices and forecast future regional market prices
Pricing structures/risk mitigation for energy sales agreement	Research, Analysis and Evaluation of different price structures and risk mitigation tools	Research, Analysis and Evaluation of different price structures and risk mitigation tools	Research, Analysis and Evaluation of different price structures and risk mitigation tools	Research, Analysis and Evaluation of different price structures and risk mitigation tools
Task 5 Primary Legislative Improvements				
Legislative research of enabling environment for transit	Research of enabling environment for transit	Recommend & support updates of enabling environment for transit	Recommended updates of enabling environment for transit	Recommended updates of enabling environment for transit
Analysis of ETM related legislation	Research & Analysis of legislation that impact ETM	Recommend & support updates of legislation as needed for ETM	Recommend & support updates of legislation as needed for ETM	Recommend & support updates of legislation as needed for ETM
Energy Policy	Research & Analysis of Energy Policy documents	Recommend & support updates of Energy Policy		
Electricity Market Design	Analysis of Electricty Market Design and update GEMM 2015 as necessary	Analysis of Electricty Market Design and update GEMM 2015 as necessary	Analysis of Electricty Market Design and update GEMM 2017 as necessary	Analysis of Electricty Market Design and update GEMM 2017 as necessary
New Electricity Market Law		Analyze and recommend draft of new Electricity Market Law	Drafting the legislation and support its adoption	
Modification of the Law on Electricity and Natural Gas	Recommend modifications& support adoption of modifications	Support adoption of further recommended changes	Recommend modifications and support adoptions	Recommend modifications and support adoptions
Law on Renewable Energy	Drafting the legislation	Support MENR in its adoption		
Creating legislative framework for certifying energy traders		Proposal for certification		
Modification of regulations on Customs	Recommend modifications and support adoptions	Support adoption of further recommended changes		
Task 6 Development of the electricity market regulations				
Development of new Market Rules	Recommend modifications and support drafting of new interim Market Rules	Recommend modifications and support adoption of new interim Market Rules	Recommend updates and support adoption of Final Market Rules	Recommend modifications and support adoptions
Transmission Grid code	Develop the draft outline for grid code and provide guidence in its development	Further development of grid code and support adoption	Recommend final changes to grid code and support adoptions	Recommend updates and support adoptions
Distribution Grid Code		Develop the draft grid code and support adoption of interim code	Recommend modifications and support adoption of final distribution code	Recommend updates and support adoptions

Balancing Rules	Draft outline	Draft Procedures	Support adoption of Rules	Recommend updates and support adoptions
Settlement Procedures	Draft outline	Draft Procedures	Support adoption of Rules	Recommend updates and support adoptions
Metering Code (part of Grid Code?)	Draft outline	Draft Procedures	Support adoption of Rules	Recommend updates and support adoptions
Communications Procedures	Draft outline	Draft Procedures	Support adoption of Rules	Recommend updates and support adoptions
Market clearing rules	Draft outline	Draft Procedures	Support adoption of Rules	Recommend modifications and support adoptions
Over the counter (OTC) trading		Draft interim OTC procedures	Support adoption of interim procedures	Draft final OTC procedures
Reserve Capacity Rules		Draft Rules	Support adoption of Rules	Recommend modifications and support adoptions
Ancillary Services Rules (part of Grid Code?)	Draft Rules	Support adoption of Rules	Recommend modifications and support adoptions	Recommend modifications and support adoptions
Customer Switching Rules		Draft Rules	Support adoption of Rules	Recommend modifications and support adoptions
Supplier of Last Resort (SOLR) Rules		Draft Rules	Support adoption of Rules	Recommend modifications and support adoptions
Connection to the transmission network (part of Grid Code?)	Draft interim rules	Draft Rules	Recommend modifications and support adoptions	Recommend modifications and support adoptions
Connection to the distribution network	Draft Interim Rules	Support adoption of Interim Rules and draft Final Rules	Support adoption of Final Rules	Recommend modifications and support adoptions
Interconnection allocation rules	Draft and support its adoption	Recommend modifications and support adoptions	Recommend modifications and support adoptions	Recommend modifications and support adoptions
Transmission congestion management rules	Draft and support its adoption	Recommend modifications and support adoptions	Recommend modifications and support adoptions	Recommend modifications and support adoptions
Planning, Nominating, Scheduling, Dispatching and System Reporting Rules (part of Grid Code?)	Draft interim rules	Support adoption of interim Rules and draft Final Rules	Support adoption of Final Rules	Recommend modifications and support adoptions
Operating competitive electricity market operation during emergencies (part of Grid Code?)	Draft emergency operation rule and support its adoption	Recommend modifications and support adoptions	Recommend modifications and support adoptions	Recommend modifications and support adoptions
Electricity market surveillance and market mitigation Procedures		Draft market monitoring process	Support adoption and implementation of market monitoring processes	Recommend modifications and support adoptions

System Planning and Reliability Criteria Rules (part of Grid Code?)	Draft rules	Support adoption of Rules	Recommend modifications and support adoptions	Recommend modifications and support adoptions
Glossary on Electricity Market terms and Definitions	Draft Glossary	Support adaptation in each relevant document		
Task 7 Licensing and tariff development for the electricity market				
License regulations		Analyze the framework for licensing and support the development of license regulations	Support adoption of regulations	Recommend modifications and support adoptions
Licenses	Analyze and recommend modifications	Support adoption of recommended modifications	Support new license adoptions	
Transmission Tariff methodology	Recommend modifications to transmission pricing	Support drafting of tariff methodology	Recommend modifications and support adoptions	
Transmission system analysis (Deep and Shallow Costs, transfer capability etc)	Draft policy on cost recovering from new HPPs			
Tariff development for market service providers (incl. use of networks)		Develop draft methodology	Support the GNEWRC	
Tariff development for ancillary services		Support the GNEWRC	Support the GNEWRC	
Uniform System of Accounts (USoA)	Analyze existing legislation and asses possibilities to implement USoA			
Task 8 Developing Guaranteed of Origins (GO)				
Guarantee of Origin Regulations		Draft GO procedures	Support adoption of GO Procedures	
Purchase Obligation Procedures		Draft purchase obligation procedures	Support adoption of PO procedures	
Task 9 Contractual Framework				
Consolidator Contracts	Support the Consolidator of SHPP energy in developing back to back energy supply contracts and in contract development with other market service organizations	Support the Consolidator of SHPP energy in developing back to back energy supply contracts and in contract development with other market service organizations		
Template for transmission services	Draft outline	Develop the template	Recommend modifications and support adoptions	

Template for TSO services	Draft outline	Develop the template	Recommend modifications and support adoptions	
TSO-TSO contracts	Draft and support negotiations	Recommend modifications and support adoptions	Recommend modifications and support adoptions	
TSO-DSO Contract	Draft and support its adoption	Recommend modifications and support adoptions		
MO-MO contract	Draft and support negotiations	Support adoption	Recommend modifications and support adoptions	Recommend modifications and support adoptions
MO-TSO Contract	Draft and support its adoption	Recommend modifications and support adoptions		
Membership contract with Market Operator	Draft outline	Draft and support its adoption	Recommend modifications and support adoptions	
Membership contract with the Clearinghouse		Draft	Support adoption	
Standard Energy Sales Agreement	Draft outline	Draft and support its adoption	Recommend modifications and support adoptions	
Template for Balancing Responsible Party	Draft outline	Draft Contract	Support adoption	
Task 10 Harmonization of legislation/regulations with regional markets				
Harmonization of legislation/regulations with Turkish power sector entities and GoT officials	Analyze existing gaps between Georgian and Turkish Electricity Market Legislations & Recommend necessary changes	Analyze existing gaps between Georgian and Turkish Electricity Market Legislations & Recommend necessary changes		
Harmonization of legislation/regulations with other regional countries		Analyze existing gaps between Georgian and Regional Electricity Market Legislations & Recommend necessary changes	Analyze existing gaps between Georgian and Regional Electricity Market Legislations & Recommend necessary changes	
Task 11 Infrastructure Improvements				
Research and design of infrastructure changes	Research and design of infrastructure changes			
Automatic Meter Reading (AMR) and Communications	Procure, install and test equipment and train employees			
IT Hardware	Procure, install and test equipment and train employees			
IT Software	Procure, install and test equipment and train employees			

Transmission System Control/System Protection Upgrades	Procure, install and test equipment and train employees			
Balancing Software	**Research and Recommendations**	Procure, install and test equipment and train employees		

9. THE IMPACT OF ETM ON RETAIL ELECTRICITY CONSUMERS

9.1 CURRENT GEORGIAN REGULATED MARKET

The following Table 9.1 provides a summary description of the regulated electricity market in Georgia as well as the existing tariff levels as of March, 2013.

Table 9.1 Electricity Market Structure of Georgia

	Market Components	Entity	Tariff [1] (USc/kWh)
1	Transmission	GSE Sakrusenergo EnergoTrans	0.3 0.11 tbd
2	Dispatch	GSE	0.09
3		Electricity System Commercial Operator (ESCO)	0.01
Generators			
4	Regulated Generators	Engurhesi Vardnilhesi	0.7 0.7
5	Partially deregulated	Jinvalhesi Vartsikhehesi Rionhesi Gumathesi Lajanurhesi Atshesi Zahesi Ortachalahesi Satskhenhesi Khadorhesi Khrami I Khrami II	1.11 0.76 2.12 2.20 2.30 2.33 0.86 1.51 1.41 5.30 1.39 2.12
6	Feedin tariff –ESCO's tariffs for deregulated plants	In Winter In Summer	5.5 0.7

[1] National Bank of Georgia Official Yearly Exchange Rate in 2012 - 1.6513 USD/GEL

7	Ancillary Services	-	-
8	Retail tariff	Industrial Household	5.9[2] 6.5
9	Guaranteed Capacity 1. Guaranteed capacity (**USD/Day**)	Mtkvari Energetika G power Georgian International Energy Corporation	21810 11045 12634
	2. Power production upper margin of guaranteed capacity usage (**USc/kWh)**	Mtkvari Energetika G power Georgian International Energy Corporation	4.9 5.1 5.5
10	Import		Regulated by the GNERC

The characteristics of the Georgian electricity market components are described below:

I. Transmission Companies

The transmission service companies (TRANSCO's) own the assets that comprise the Georgian transmission system. They are responsible for maintaining and expanding the system as necessary to meet forecast electricity demand through long-term development and investment. Currently, three companies perform transmission services in Georgia: Georgian State Electrosystem (GSE), SakRusEnergo and EnergoTrans.

Transmission tariffs are set by the energy regulator, GNERC. The tariff design is a one-part price based on the energy (kWh) transferred, (i.e. energy tariff) and the cost of transmitting electricity is the same regardless of distance within the country, i.e. it is not distance related.

The tariffs for transmitting electricity are as follows:

- for GSE: 0.3 USc/kWh for the 35 -110 -220 kV line, 0.67 USc/kWh for the 6 - 10 kV lines
- for SakRusEnergo: to 0.11 USc/kWh

In addition, GSE receives a dispatch tariff of 0.09 USc/kWh.

II. ESCO

With respect to the current market structure, ESCO is a market maker and responsible for supplementing direct bi-lateral contracts between the market participants. As a commercial entity, owned by the Georgian State, ESCO is

[2] Tariffs don't include VAT

responsible for balancing electricity demand and supply. Its main functions are the following:

- Purchase and sale of supplemental electricity and capacity including medium and long-term import-export contracts;
- Trade of Guaranteed Capacity;
- Operate and maintain database on wholesale electricity trade;
- Calculate factual amount of purchased and sold electricity and submit information for final settlement;
- Wholesale meter inspections; and,
- Calculate the volume and the price of electricity in excess of normative electricity losses on the transmission networks.

ESCO's service fee is 0.01 USc/kWh, which is approved by GNERC.

III. Generators

Under the current system, electricity generators are divided into regulated, partially regulated and deregulated units. Regulated generators are HPPs with seasonal storage. Their tariffs are regulated by GNERC and set based on the full-cost principal.

Two of them, Enguri and Vardnili have fixed regulated tariffs of 0.7 USc/kWh.

The rest of the regulated HPPs operate under partially deregulated tariffs that have ceiling rates (see Table 9.1).

Small HPPs (less than or equal to 13 MW installed capacity) and HPPs that were built after August 2008 are fully deregulated and can sell their electricity productions with competitive prices either to ESCO or to any other market participant.

IV. Feed-in Tariff (FIT)

As mentioned above, small HPPs are allowed to sell their productions to ESCO or to other qualified enterprises or retail customers with competitive prices. If HPPs sell to ESCO, the latter offers formula-based prices (based on approved Market rules) which are determined as follows: during winter months (from September – to April) ESCO pays highest purchasing price of balancing electricity, now at 5.5 USc/kWh (based on TPP tariffs) and during the summer period (from May – to August) the price is now at 0.7 USc/kWh. This is the tariff of regulated power plants, which has the lowest price.

As for the small HPPs, during summer time the HPPs often have difficulty to sell generated electricity because of a surplus in the system and limited export options. The tariff ESCO is proposing them could be considered a feed-in tariff. The tariff is sufficient to encourage HPP generation in the winter but the summer time rate is very low and the HPPs owners frequently shut down their plants (spill water) during this period.

V. Ancillary Services

Current Georgian regulated electricity market has yet to establish and present separately priced ancillary services. Ancillary services support the transmission of energy from generating resources to customer loads, while maintaining reliable

operation of the Power System. The cost of ancillary services is paid by all Market Participants and is based on their share of the overall load.

Ancillary services consist of various types of physical equipment and human resources, to meet reliability requirements of the power system. The TSO coordinates the provision of all ancillary services and directly arranges for the supply of all ancillary services that are not self-supplied. Some ancillary services must be provided by the TSO; others can either be provided by the TSO or procured by the Generators and Transmission customers themselves. All ancillary service must be scheduled and/or coordinated by the TSO.

Under GEMM 2015, the TSO will be able to buy ancillary services from Regulated Generators, Traders, Independent Power Producers (IPPs) and Small HPPs at market-based prices.

VI. Retail tariffs

Retail tariffs for end-user electricity service provided by distribution companies are regulated in Georgia (distribution margin in set within contracts between investors and the GoG). Since 2003, a tariff has been differentiated to households and non-household customers. Currently, the rate for non-household customers is 5.9 USc/kWh and for households – 6.5 USc/kWh (excluded VAT).[3]

VII. Guaranteed Capacity

The stability and reliability of country's energy system are secured by the Guaranteed Capacity (GC). Currently, the Government of Georgia determines the sources of Guaranteed Capacity, the volume of minimum Guaranteed Capacity that should be provided by each Guaranteed Capacity source and the periods to provide the service.

The MENR approves Electricity (capacity) balance and projected balance of volumes for monthly generation by GC sources.

According to the "Electricity Market Rules", trading with the Guaranteed Capacity is conducted exclusively by ESCO.

Currently, the three thermal power plants which represent property of three separate electricity generation licensees are determined as the sources of guaranteed

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[3] With the purpose of creation additional social defense for population and support power reasonable usage, there are power purchase rates according consumed power quantity for JSC "Telasi" 220/380 voltage residential consumers of Tbilisi:

a) 101 kwh (included) – 6.9 USc/kwh

b) from 101 kwh to 301 kwh (included) – 8.2USc/kwh

c) From 301 kWh and more – 9.1 kWh.

For Energo pro Georgia :

a)101 kwh (included) – 6.7 USc/kwh

b) from 101 kwh to 301 kwh (included) – 8.5 USc/kwh

c) from 301 kwh and more – 9 USc/kwh

capacity: Georgian International Energy Corporation, Georgian Power, and Mtkvari Energetika. Rates for GC source power plants are defined by GNERC as follows: a set capacity payment and electric power production marginal rate (upper margin) of guaranteed capacity source that ranges from 4.9 to 5.5 USc for each kWh generated.

Cost of guaranteed capacity is paid by distribution companies, direct customers and the exporters. They are obliged to provide the Capacity System Reserve with required volume.

Customer Switching Rules

Main Directions of State Policy in the Power Sector of Georgia provides that by 2017 Georgia's electricity market must be opened to full competition and all consumers will be Eligible Customers. GNERC should issue Customer Switching Rules as a separate topic or as part the Market Rules. Per EU legislation, once any retail electricity consumer switches from the universal service provider to be served by a non-regulated supplier, that customer will no longer be provided protection under (not allowed to switch back to) universal service. The switching rules will pertain to conditions under which after market opening a customer can become either an eligible customer [refers to medium and large consumers - direct customers[4]] and switch to the competitive power market, or return as a tariff customer which is protected by the rates regulated by the GNERC [refers to small enterprises and households].

The Customer switching rules also determine the conditions under which a customer is allowed to choose/change supplier between various market players and include the notification forms for applying for switching by a customer.

One important thing to mention is introducing a SOLR - Supplier of Last Resort - that is a supplier providing electricity to a retail customer with market prices in emergency situations. In other words, in the event of any competitive retail supplier failure, GNERC's priority would be to ensure that all customers continue to receive supplies of electricity so it designates the SOLR. The regulator should issue rules to determine the conditions for selecting a SOLR using a transparent selection process.

9.2 IMPACT ON REGULATED RETAIL ELECTRICITY CONSUMERS DURING COMPETITIVE MARKET DEVELOPMENT

Georgian Electricity Market Model (GEMM) in 2015 is envisaged as a mechanism that enables electricity trading on the regional competitive power markets and at the same time protects domestic tariff costumers. When assessing the impact of the competitive market development on retail tariffs, the following market improvements have to be taken into account:

1. **Allocation of Bilateral Contracts** – Currently regulated and partially regulated HPPs provide low-cost electricity to regulated retail consumers in Georgia. Most if not all power sold by these HPPs is done so in bi-lateral contracts. GNERC calculates the average cost of generating power for each distribution company

[4] In order to qualify as a direct customer, a company needs to have annual electricity consumption of at least 16 GWh.

and the related costs of power from bi-lateral electricity trading is used within their calculations and embedded into retail electricity prices.

The prices in the contracts between electricity off-takers and the regulated and partially regulated HPPs are subject to GNERC approval. In order to protect tariff costumers from price increase during the competitive market development, two options in the bilateral contracts can be considered:

Option 1 – leave prices at the cost of service allowing regulated retail consumers to enjoy the low-cost electricity from these HPPs.

Option 2 – allow these HPPs to gradually enter the competitive market. For the regulated HPPs, allow, that any excess profits from the sale to the competitive market be returned as a credit to all regulated retail consumers or target the credit to vulnerable consumers during a transitional period.

2. **Hourly balancing** – Each electricity market participant is responsible for accurate forecasting of their generation output or their consumption. Distributions companies (retail power suppliers) are responsible, through production of its own generation or purchase of electricity through bi-lateral contracts, to meet the total demand required by the regulated retail consumers in their respective service territories.

   There is always some level of forecasting deviation from actual sales as the distribution companies forecast their hourly demand for the next day. Distribution companies will be afforded a dead band, that is, an amount of energy plus and minus from their hourly forecast, say 3% initially, for which they will not be assessed an imbalance service penalty. Any imbalance outside of the dead band will be the financial liability of the distribution company which will not be passed along to retail consumers.

3. **Clearing Mechanism for Electricity Traders** – International electricity trading is conducted via energy exchanges or bilateral contracts. If the buyers and sellers have entered an electricity contract via a financial electricity exchange, clearing is mandatory. The use of liquid assets or bank line of credits can be used. Nevertheless, these options are considered to be expensive for traders. Furthermore, any party, selling a commodity, will wish to understand the creditworthiness of their counterparty to manage their risk in the event of a default. To manage this risk, purchasers may be required to post some form of collateral. Therefore, the clearing mechanism is well recognized and established in well- developed competitive electricity markets. A market clearing mechanism guarantees the financial regularity of the market players and reduces the counterparty risk. The competitive market determines the clearing price. The Clearing Mechanism simply allows the market buyers and sellers to reduce their cost of business and improve their net income position.

   The allocation of the bilateral contracts, the establishment of the hourly balancing mechanism and the introduction of the clearing mechanism will impact the transmission tariffs and the MO/TSO service fees in the following way:

4. **MO service tariff** – The Market Operations fee is paid by those entities using the Market Operator services. The additional regulated fee above the current fee of ESCO will be something of the order of $.0001/kwh. Most of the revenues of the MO will not come from regulated retail consumers but rather from energy traders.

   Hourly balancing – regulated retail consumers will never be subject to penalties for imbalance service. Electricity traders such as exporters and qualified consumers will be responsible for any balancing costs based on the imbalance service activity. Any party receiving imbalance service will also pay a fee to the MO for providing such service.

   Day Ahead Market – The day-ahead market is a risk management tool that allows sellers and buyers to reduce their overall costs. If a distribution company buys or sells into the DAM, it does so to reduce the cost of power to its retail consumers.

   Secondary Power Trading – For contracts that are allowed to be traded to third parties, the MO can provide the platform for such trade. This service provides more revenues for sellers and reduces the cost of doing business for buyers.

5. **TSO service tariff** - The Transmission System Operations fee is paid by those entities using the TSO services. The additional regulated fee above the current fee of GSE's dispatch will be something of the order of $.0001/kwh.
6. **Right to Export** – Regulated and partially regulated generators and units under guaranteed capacity should be scheduled for delivery on an annual, monthly and daily basis for the benefit of Georgian retail consumers. If there is additional energy not scheduled/needed for Georgia's domestic market, then the owners of the power plants can export surplus electricity if they have acquired interconnection rights.
7. **Transmission Service Tariff**

   This section addresses introduction of tariffs for transmission line users.

   The GoG spent over €250 million for the new transmission facilities, both for export and to improve domestic system reliability. To support the re-payment of the loans for the new facilities, the GoG would like to introduce an export transmission tariff[5] that needs to be maintained at a reasonable level as otherwise no trading will occur on the new facilities.

   There are three options for the loan re-payment, through:

   Option 1 – Electricity Traders (As a trader is able to export, it will be the subject to export tariff charging and for Import of electricity.

   Option 2 - Domestic Ratepayers (distribution companies on behalf of regulated retail consumers) and direct customers will pay increased transmission fees)

   Option 3 – State Budget (Some or all of the annual loan re-payment could come from the State Budget.)

   For the purposes of tariff calculation, the energy regulator must forecast the volume of export and import energy. With the volume amounts and the annual

[5] Export tariff will be introduced for new Akhaltsikhe-Borcha 400 kV line

revenue requirements for the export/import-related facilities, we can calculate the export/import tariff.

Below are the steps required for tariff calculation process:

1. Data from Energo-trans;
2. Allocate RAB[6] [Domestic / Export-Import]
3. Allocate operating cost [Domestic / Import-Export]
4. Allocation of Transmission electricity losses
5. Project revenue requirements to 2017 (year when export/import volumes should be at normal levels)
6. Project volume to 2017
7. Divide annual revenue requirement by expected volumes in 2017

There are two options for transmission tariff:

1. Set two different tariffs for domestic transmission and for export-import purposes;
2. Set one entire tariff for all transmission line users

In the case with two tariffs, one critical issue rises - how will transmission facilities related to export-import be separated from facilities used for domestic purposes? The process for such separation will require proper allocation of CAPEX, OPEX, and substantive extent of subjective decisions and expertise of engineering, operating and accounting human force.

In the electricity market, transmission system service users expect the transmission tariff to be cost reflective, predictable, transparent and non-discriminatory. It must cover the costs of the services, must be profitable and provide an appropriate return on investments made in the system.

In the process of tariff setting, the following basic principles are used:

- Predictability– tariffs should be stable & foreseeable;
- Accountability - tariffs should be calculated based on the cost of service;
- Simplicity – tariffs should be understandable;
- Motivation for investment - tariffs should use incentive-based indicators;
- Motivation for high quality supply – tariffs should use performance-based indicators;
- Fairness- tariffs should be non-discriminatory (fair to all customers);
- Profitability - tariffs should use a reasonable rate of return on equity consistent with the risk of the entity.

Based on the above-mentioned principles, the energy regulator will introduce incentive regulation with ceiling method including performance regulation. In most of cases the regulatory authority applies performance based indicators (energy quality, service quality and network reliability indicators) where the revenue requirements of

6 The Regulatory Asset Base (RAB) - represents the net value of a company's regulated assets used in price regulation.

the transmission companies are linked with the achievement of targets set by the Regulator.

The regulation lies out the principles of tariff-setting, necessary data to be collected, rate and regulatory periods, revenue requirements determination, performance indicators, customers groups and rate design formation.

9.3 IMPACT ON VULNERABLE CUSTOMERS

During the transition period, if the Government of Georgia decides to allow the country's existing hydropower generating resources to enter the competitive electricity market, than the average cost of generation in Georgia will increase. That will result in retail price increases especially when the current regulated prices may not reflect the real cost of energy production.

Even though competition will dampen long-run increases in electricity prices, increase in regulated retail tariffs is a normal phenomenon for any energy market due to new required investments into the energy sector.

Because of the future price increases, it is vital that vulnerable consumers on the open electricity market be protected. The Government should take appropriate measures to protect final customers and assist low income households, particularly those with the customers below the poverty level (so-called vulnerable customers[7]) that pay a high proportion of income for meeting their energy needs.

According to the Third Package for Electricity & Gas Markets (European Directive 2009/72/EC concerning electricity) there is an obligation to strengthen the energy market and protection of all consumers, with a special focus on vulnerable customer protection.

There is no special system how to support vulnerable customers within the energy sector. The approaches differ from social tariffs, government subsidies, regulated energy prices and other support mechanisms. The protection of vulnerable customers may also refer to a prohibition of disconnection at critical times. (For example, consumers with an extremely low income may be considered to be vulnerable during a severe winter if they use electricity to heat their home),

Below are three potential programs that target vulnerable electricity customers.

1) One program provides direct energy assistance from the State Budget to vulnerable customers. The GoG has provided such assistance in the past, but it is merely a one-time payment with no lasting effects. The payment is made to all electricity users with no reflection on family income nor alternative energy use. If the regulated HPPs are allowed to enter the competitive market, any excess profit from the power market could be assigned to vulnerable consumers.
2) Another program involves the design of rates for retail energy customers which provide subsidies within the retail rate classes. Retail rates are separated into blocks, with the lowest block, called the life-line rate, subsidized by higher rate blocks. Georgia has a slightly different approach by

[7] There is no common definition of the term "Vulnerable customer" in the Third Energy Package. A country should define it in terms appropriate to national circumstances.

using a special tariff if electricity use per household is less than 100kWh/month.

3) The third program targets energy efficiency projects for the vulnerable customers. The energy savings allow the vulnerable customers to obtain basic service levels at a much power costs for a sustainable period, rather than one-time payments.

There are different ways of regulating the support system for vulnerable customers. It can be regulated within primary laws or secondary legislation. The Government of Georgia must choose its own way of protecting vulnerable consumers according to its welfare policy, but all support systems must discourage vulnerable customers from inefficient electricity use. They must be educated on energy efficiency issues and this is a role of the regulator, distribution companies and the Ministry of Energy and Natural Resources.

10. CONTACTS

Should you require any additional information about the contents of this document, or clarification about aspects of the GEMM 2015 or the ETM, or any related issues, please contact the following:

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